

# STATE OF INDIANA

DEPARTMENT OF LOCAL GOVERNMENT FINANCE  
PHONE (317) 232-3777  
FAX (317) 232-8779



INDIANA GOVERNMENT CENTER NORTH  
100 NORTH SENATE AVENUE N1058(B)  
INDIANAPOLIS, IN 46204

May 9, 2008

Mr. Shaw R. Friedman  
FRIEDMAN & ASSOCIATES P.C.  
705 Lincolnway  
LaPorte, IN 46350

**RE: Public Records Request**

Mr. Friedman,

I am writing in response to your email dated May 5, 2008, to the Department of Local Government Finance (Department) requesting public records pursuant to the provisions of Indiana Code § 5-14-3-1. The Department formally acknowledged receipt of your public records request on May 8, 2008 by sending a written response within seven (7) days as required by Indiana Code.

Attached are copies of correspondence you have requested relating to any contract that Mr. Thomas Atherton or his law firm has with our agency to perform work on the draft 2011 assessment Manual or any other projects for the Department. Furthermore, your request includes any letter or correspondence in the last three years directed to or from Mr. Atherton (or his co-author Larry Stroble) regarding this project with the Department. In conclusion, the last time the Bose McKinney firm received any payment from the Department was in 1997.

If you have any further questions regarding this public records request, please contact me.

Sincerely,

Brenda Summers  
Public Information Officer & Legislative Liaison  
Department of Local Government Finance

## Summers, Brenda

---

**From:** Larry Stroble [larry.stroble@BTLaw.com]  
**Sent:** Monday, February 25, 2008 4:22 PM  
**To:** Musgrave, Cheryl  
**Cc:** dsuess@boselaw.com; TAtherton@boselaw.com; Wood, Barry; Rushenberg, Tim; mcahoon@imaweb.com; BWaltz@indianachamber.com  
**Subject:** Proposals Concerning 2011 Manual

**Attachments:** 1018943\_1.DOC; 1019846\_1.DOC; Guidelines Suggestions 2 25 2008.pdf



1018943\_1.DOC  
(165 KB)



1019846\_1.DOC  
(220 KB)



Guidelines  
uggestions 2 25 20.

Cheryl,

This is a follow up to a meeting that Mark Cahoon, Bill Waltz, Tom Atherton, David Suess, and I had with Barry Wood and Tim Rushenberg on February 14, 2008. Because of the limited amount of time before the DLGF needs to complete its draft of the 2011 assessment manual, we agreed that we would provide our comments in the form of specific suggestions. Attached is a write up that contains our suggestions. Also attached is a marked copy that highlights our proposed changes.

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Our group would be glad to meet with you, Barry, and Tim again to explain our thoughts further or to discuss other aspects of the new manual. We appreciate your efforts in trying to improve our tax assessment system.

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imposed by Section 6662A of the Internal Revenue Code. The firm provides reliance opinions only in formal opinion letters containing the signature of a partner.

-----Original Message-----

From: Rushenberg, Tim  
Sent: Monday, February 25, 2008 4:40 PM  
To: 'Larry Stroble'; Musgrave, Cheryl  
Cc: dsuess@boselaw.com; TAtherton@boselaw.com; Wood, Barry;  
mcahoon@imaweb.com; BWaltz@indianachamber.com  
Subject: RE: Proposals Concerning 2011 Manual

Larry,

Thanks. We'll take a look at it.

Timothy J. Rushenberg  
General Counsel  
Indiana Department of Local Government Finance

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To: Musgrave, Cheryl  
Cc: dsuess@boselaw.com; TAtherton@boselaw.com; Wood, Barry; Rushenberg, Tim;  
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Subject: Proposals Concerning 2011 Manual

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In addition, although we have not gone through the entire Guidelines page by page, we have identified certain selected parts where we have comments. Those are attached in a pdf document with handwritten suggestions.



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**From:** Rushenberg, Tim  
**Sent:** Tuesday, February 26, 2008 10:40 AM  
**To:** TAtherton@boselaw.com  
**Cc:** Ebert, Linda  
**Subject:** Meeting with Commissioner re: real property manual

Tom,

The Commissioner is able to meet this week, but wanted you to know that she may be pulled away for a last-second legislative matter. What dates and times are you available?

Linda Ebert, who is courtesy copied on this email, is the Commissioner's assistant. She will schedule the meeting and put you on her calendar for this week.

Very Respectfully,

**Timothy J. Rushenberg**  
General Counsel  
Indiana Department of Local Government Finance  
Indiana Government Center North  
100 North Senate Avenue N1058(B)  
Indianapolis, IN 46204  
Phone: (317) 232-3777  
Fax: (317) 232-8779

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**From:** Rushenberg, Tim  
**Sent:** Friday, March 07, 2008 1:05 PM  
**To:** Larry Stroble  
**Cc:** dsuess@boselaw.com; TAtherton@boselaw.com; Wood, Barry; mcahoon@imaweb.com; BWaltz@indianachamber.com  
**Subject:** RE: Proposals Concerning 2011 Manual

Please see the attached draft Manual. We'd appreciate any comments you may have. Time is short.

Tim

**From:** Larry Stroble [mailto:larry.stroble@BTLaw.com]  
**Sent:** Mon 2/25/2008 4:21 PM  
**To:** Musgrave, Cheryl  
**Cc:** dsuess@boselaw.com; TAtherton@boselaw.com; Wood, Barry; Rushenberg, Tim; mcahoon@imaweb.com; BWaltz@indianachamber.com  
**Subject:** Proposals Concerning 2011 Manual

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## Summers, Brenda

---

**From:** Larry Stroble [larry.stroble@BTLaw.com]  
**Sent:** Monday, March 10, 2008 10:08 AM  
**To:** Rushenberg, Tim  
**Cc:** dsuess@boselaw.com; TAtherton@boselaw.com; Wood, Barry; mcahoon@imaweb.com; BWaltz@indianachamber.com  
**Subject:** RE: Proposals Concerning 2011 Manual

Tim,

The draft looked fine to me. I had no other comments. I assume if any of the others receiving this e-mail message have any comments, they will communicate them directly to you.

>>> "Rushenberg, Tim" <trushenberg@dlgf.in.gov> 3/7/2008 1:04 PM >>>  
Please see the attached draft Manual. We'd appreciate any comments you may have. Time is short.

Tim

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-----Original Message-----

From: Suess, David [mailto:dsuess@boselaw.com]  
Sent: Wednesday, March 12, 2008 10:06 AM  
To: Larry Stroble; Rushenberg, Tim  
Subject: RE: Proposals Concerning 2011 Manual

Tim: The draft looks fine to me as well.

David

-----Original Message-----

From: Larry Stroble [mailto:larry.stroble@BTLaw.com]  
Sent: Monday, March 10, 2008 10:08 AM  
To: Tim Rushenberg  
Cc: Suess, David; Atherton, Thomas; Barry Wood; mcahoon@imaweb.com;  
BWaltz@indianachamber.com  
Subject: RE: Proposals Concerning 2011 Manual

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Cc: dsuess@boselaw.com; TAtherton@boselaw.com; Wood, Barry; Rushenberg, Tim; mcahoon@imaweb.com; BWaltz@indianachamber.com  
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**From:** Rushenberg, Tim  
**Sent:** Wednesday, March 26, 2008 9:40 AM  
**To:** 'Atherton, Thomas'  
**Subject:** RE: New Manual

The new manual has been sent over to the State Budget Agency awaiting approval.

**Timothy J. Rushenberg**  
General Counsel  
Indiana Department of Local Government Finance

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---

**From:** Atherton, Thomas [mailto:TAtherton@boselaw.com]  
**Sent:** Wednesday, March 26, 2008 9:26 AM  
**To:** Rushenberg, Tim  
**Subject:** New Manual

I got a call from the chamber suggesting I speak at their annual tax get-together about "changes in the new manual." It strikes me as a little premature to be talking about a 2011 manual. What is the status of the new manual? Has it even seen the light of day?

I take the liberty of interrupting your day because I know Bill Wendt is in the hospital, so you've got a lot more free time on your hands. ;-)

Tom

Thomas M. Atherton  
Bose McKinney & Evans, LLP  
135 North Pennsylvania Street  
Indianapolis, IN 46204  
Telephone: (317) 684-5348  
Facsimile: (317) 223-0348  
TAtherton@boselaw.com

\*\*\*\*\*

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**From:** Rushenberg, Tim  
**Sent:** Monday, May 05, 2008 2:44 PM  
**To:** Atherton, Thomas  
**Subject:** RE: IAAO Library-legal value standard by state

Very helpful. I was planning on contacting the IAAO on Wednesday to see if they had such state-by-state information.

Very Respectfully,

**Timothy J. Rushenberg**  
General Counsel  
Indiana Department of Local Government Finance

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**From:** Atherton, Thomas [mailto:TAtherton@boselaw.com]  
**Sent:** Mon 5/5/2008 2:22 PM  
**To:** Rushenberg, Tim  
**Subject:** FW: IAAO Library-legal value standard by state

Tim,

I am forwarding this email I received from the IAAO and hope it may be useful in the DLGF's consideration of proper standard of value to be included in the next Manual. The attached table shows that use value is the predominant standard of value for agricultural properties (including timber). However, apart from agricultural properties and the states of Nevada and Montana, market value is the almost universal standard and use value is almost "unused."

I will bring copies of the table to the meeting. Since the IAAO didn't include the title or source of the document in the table, it may be unclear where the document came from, and I wanted you to be able to see the source.

Tom

---

**From:** Mary Odom [mailto:Odom@iaao.org]  
**Sent:** Monday, May 05, 2008 12:02 PM  
**To:** Atherton, Thomas  
**Subject:** IAAO Library-legal value standard by state

Good Morning Mr. Atherton,

Thank you for contacting the IAAO Library concerning the legal value standard for each state. I have attached a section from the *Property Tax Policies and Administrative Practices in Canada and the United States* published by IAAO in 2000. The question that the state's answered for this section is below:

"Indicate the number of parcels in each type of property and the legal level of assessment for each property category. Also please check which value standard applies, such as market value, for each property type. If the value standard is market value, please indicate in the base year column whether it is current market value or if the market value is established as of a certain point in time (such as a base year of 1990)."

If you need further assistance, please contact me again.

Best Regards,

Mary Odom  
Research Librarian  
International Association of Assessing Officers  
314 W. 10th St.  
Kansas City, MO 64105-1616  
Direct: 816-701-8117  
Fax: 816-701-8149  
Toll-free: 800-616-4226  
odom@iaao.org

"I cannot live without books." -Thomas Jefferson

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**From:** IAAO 5870U [mailto:5870@iaao.org]  
**Sent:** Monday, May 05, 2008 10:01 AM  
**To:** Mary Odom  
**Subject:** Attached Image

\*\*\*\*\*  
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## **Introduction**

A general reassessment of all real property within the state is required as of March 1, 2011. This assessment manual contains the rules for assessing real property located in Indiana for the March 1, 2011, assessment date.

IC 6-1.1-31-6(c) provides that "true tax value is the value determined under the rules of the department of local government finance." In the case of agricultural land, true tax value shall be the value determined in accordance with the Guidelines adopted by the Department of Local Government Finance. In the case of all other real property, true tax value shall mean market value, which is defined as follows:

The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress.<sup>1</sup>

The true tax value of property under this definition shall be determined as of the applicable assessment date.

Three standard approaches are used to determine market value. The first approach, known as the *cost approach*, estimates the value of the land as if vacant and then adds the depreciated cost new of the improvements to arrive at a total estimate of value. The second approach, known as the *sales comparison approach*, estimates the total value of the property directly by comparing it to similar, or comparable, properties that have sold in the market. The third approach, known as the *income approach*, is used for income producing properties that are typically rented. It converts an estimate of income, or rent, the property is expected to produce into value through a mathematical process known as capitalization. Each of these approaches is appropriate for determining the true tax value of property under the definition provided in this manual. The approaches to determining market value and the reconciliation of such approaches shall be applied in accordance with generally recognized appraisal principles. Standard appraisal and valuation texts such as those published by the Appraisal Institute and the International Association of Assessing Officers, are acceptable sources for determining such principles. The estimate of market value shall be based on the property's highest and best use as determined by the application of such appraisal principles.

The Guidelines adopted by the Department of Local Government Finance provide procedures and schedules that are acceptable in determining true tax value under the cost approach. Assessing officials may also consider other relevant information in applying the cost approach and may also use either the sales comparison approach or the income approach, or both, in determining true tax value if they are applicable to the type of property being assessed and if relevant and reliable data is available to support the use of such approaches.

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<sup>1</sup> Appraisal Institute, *The Dictionary of Real Estate Appraisal*, p. 177 (2002).

An assessment determined by an assessing official in accordance with this manual shall be presumed to be correct. Any evidence relevant to the true tax value of the property as of the assessment date may be presented to rebut the presumption of correctness of the assessment. Such evidence may include an appraisal prepared in accordance with generally recognized appraisal standards. However, there is no requirement that an appraisal be presented either to support or to rebut an assessment. Instead, the validity of the assessment shall be evaluated on the basis of all relevant evidence presented. Whether an assessment is correct shall be determined on the basis of whether, in light of the relevant evidence, it reflects the property's true tax value as defined in this manual.

The county assessor shall also utilize assessment studies, as provided in a separate rule, as a means to attain a just and equal basis of assessment among taxpayers in the county under IC 6-1.1-13-6. Assessment studies seek to measure both the level of assessment and level of uniformity within assessing jurisdictions and property classes.

Level of assessment refers to the extent to which property assessments approximate legally mandated assessed valuation standards. By comparing the certified assessed values of sample parcels within townships with values based on the valuation standards, assessment ratios can be calculated for each township in a county. These ratios will serve as a basis for level of assessment measures.

Level of uniformity refers to the degree to which property classes are equally assessed within assessing jurisdictions. Based on assessment ratio data for each township in a county, various statistical measures, including coefficient of dispersion, can be applied to determine the level of uniformity within assessing jurisdictions.

Data utilized to measure level of assessment and levels of uniformity are to be used by county assessors to equalize the assessed value of property within the county. When deemed necessary to equalize assessments between or within townships or between classes of property, or when deemed necessary to raise or lower assessments within a county or any part thereof to the level prescribed by law, the county assessor shall apply a percentage increase or decrease to individual assessments to attain just and equal assessments.

Assessment studies generally involve five basic steps: (1) definition of purpose and objectives, (2) collection and preparation of market data, (3) matching appraisal and market data, for consistency, (4) statistical analysis, and (5) evaluation and use of results.

## Definitions

Definitions preceded by ■ are taken from the publication, **Glossary for Property Appraisal and Assessment**, copyright © 1997 by the International Association of Assessing Officers, 130 East Randolph Street, Suite 850, Chicago, Illinois 60601-6217. Definitions preceded by ▼ are those developed by the Department of Local Government Finance. Words in bold print in the definition refer to other words defined in this section.

<b>Appraisal</b>	■ (1) The act of estimating the money value of property. (2) The money value of property as estimated by an appraiser. (3) Of or pertaining to appraising and related functions, for example, appraisal practice, appraisal services.
<b>Appraisal Date</b>	■ The date as of which a property's value is estimated. ▼ The date as of which the <b>true tax value</b> of the property is estimated. In the case of the 2011 general reassessment, this would be March 1, 2011.
<b>Appraisal Methods</b>	■ The three methods of appraisal, that is, the <b>cost approach</b> , <b>income approach</b> , and <b>sales comparison approach</b> as defined in the Overview of Mass Appraisal Methods and Models section of this rule. ▼ Any method of estimating value
<b>Arithmetic Mean</b>	■ See <b>mean</b> .
<b>Array</b>	■ An ordered arrangement of data, such as a listing of sales ratios, in order of magnitude. ▼ A ranking of data in order of value. May be either in ascending (lowest to highest) or descending (highest to lowest) order. Also referred to as a rank order.
<b>Assess</b>	■ To value property officially for the purpose of taxation.
<b>Assessed Value</b>	■ The dollar amount for a property entered into the assessment roll. ▼ May differ from <b>true tax value</b> if a fractional assessment system exists. Beginning with the 2001 assessment year, the <b>assessed value</b> equals 100% of the <b>true tax value</b> .
<b>Assessment</b>	■ (1) In general, the official act of determining the amount of the tax base. (2) As applied to property taxes, the official act of discovering, listing, and appraising property, whether performed by an assessor, property tax assessment board of appeals or a court. (3) The value placed on property in the course of such act. See <b>assess</b> .
<b>Assessment-Appraisal Ratio</b>	■ The ratio of the <b>assessed value</b> of a property to an independent appraisal.
<b>Assessment Date</b>	▼ March 1 <sup>st</sup> of any year.



<b>Assessment Equity</b>	■ The degree to which assessments bear a consistent relationship to <b>market value</b> .
<b>Assessment Level</b>	■ The common or overall ratio of <b>assessed values</b> to <b>market values</b> .
<b>Assessment Ratio Study</b>	■ An investigation intended to determine the <b>assessment ratio</b> and <b>assessment equity</b> .
<b>Assessment-Sale Price Ratio</b>	■ The ratio of the assessed value to the <b>sale price</b> (or adjusted sale price) of a property.
<b>Average</b>	■ The arithmetic <b>mean</b> .
<b>Central Tendency</b>	■ (1) The tendency of most kinds of data to cluster around some typical or central value, such as the mean, median, or mode. (2) By extension, any or all such statistics.
<b>Coefficient of Dispersion</b>	■ The <b>average deviation</b> of a group of numbers from the <b>median</b> expressed as a percentage of the median. In ratio studies, the average percentage deviation from the median ratio.
<b>Comparable Sales</b>	■ Recently sold properties that are similar in important respects to a property being appraised; sometime referred to as "comparables".
<b>Dispersion</b>	■ The degree to which data are distributed either tightly or loosely around a measure of central tendency.
<b>Equalization</b>	■ The process by which an appropriate governmental body attempts to ensure that all property under its jurisdiction is appraised at the same ratio or as required by law.
<b>Fractional Assessment</b>	■ Assessment at a fraction (percentage) of full value, or of such standard as may be fixed by law. Note: Fractional assessment may constitute underassessment, or it may be sanctioned by law. ▼ In Indiana, up to and including the 2000 assessment year, the statutes allowed for fractional assessments of 33-1/3% of <b>true tax value</b> . Beginning with the 2001 assessment year, fractional assessments no longer legally exist because the statute raises the assessment level to 100% of true tax value.
<b>Level of Assessment</b>	■ See <b>assessment level</b> and <b>assessment ratio</b> .
<b>Lien Date</b>	■ The date on which an obligation, such as a property tax bill (usually in an amount yet to be determined), attaches to a property and the property becomes security against its payment.

<b>Market Value</b>	The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress.
<b>Mass Appraisal</b>	■ The process of valuing a group of properties as of a given date using common data, standardized methods, and statistical testing
<b>Mean</b>	■ A <b>measure of central tendency</b> . The result of adding all the values of a variable and dividing the number of values.
<b>Measures of Central Tendency</b>	■ A single point in a range of observations around which the observations tend to cluster. The three most commonly used <b>measures of central tendency</b> are the <b>mean, median, and mode</b> .
<b>Median</b>	■ A <b>measure of central tendency</b> . When the number of items is odd, the value of the middle item when the items are arrayed by size. When the number of items is even, the arithmetic average of the two central items when the items are similarly arranged. Thus, a positional average that is not affected by the size of extreme values.
<b>Mode</b>	■ The most frequently occurring observation in an array.
<b>Model</b>	■ (1) A representation of how something works. (2) For purposes of appraisal, a representation (in words or an equation) that explains the relationship between value or estimated sale price and variables representing factors of supply and demand
<b>Property Wealth</b>	■ The abundance of economic utility realized from property rights.
<b>Ratio Study</b>	■ A study of the relationship between appraised or <b>assessed values and market values</b> . Indicators of market values may be either sales ( <b>sales ratio study</b> ) or independent "expert" appraisals (appraisal ratio study). Of common interest in ratio studies are the level uniformity of the <b>appraisal or assessments</b> .
<b>Reassessment</b>	■ The re-listing and reappraisal of all property in a jurisdiction or portion thereof. Also called reappraisal or revaluation.
<b>Replacement Cost</b>	■ The cost, including material, labor, and overhead, which would be incurred in constructing an improvement having the same utility to its owner as a subject improvement.
<b>Reproduction Cost</b>	■ The cost of constructing a new improvement, reasonably identical with the subject improvement, using the same materials, construction

	standards, design, and quality of workmanship.
<b>Sale Price</b>	■ Amount paid for an item.
<b>Sales Ratio Study</b>	■ A <b>ratio study</b> that uses sales prices as a proxy for market values.
<b>Single-Property Appraisal</b>	■ Appraisal of properties one at a time. Contrasts with <b>Mass Appraisal</b> .
<b>Statistics</b>	<p>■ (1) Numerical descriptions calculated from a sample. For example, the <b>median, mean, or coefficient of dispersion</b>. Statistics are used to estimate corresponding measures, termed parameters, for the population.</p> <p>(2) The science of studying numerical data systematically and of presenting the results usefully</p>
<b>Subject Property</b>	■ The property being appraised.
<b>Taxable Value</b>	<p>■ The appraised value minus all applicable exemptions, deductions, and abatements. Property taxes are levied on taxable value. ▼ In Indiana, the taxable value is referred to as net assessed value.</p>
<b>True Tax Value</b>	<p>■ In the case of agricultural land, the value determined in accordance with the Guidelines adopted by the Department of Local Government Finance. In the case of all other property, market value as defined in this manual.</p>
<b>Valuation Date</b>	<p>■ The date as of which a property's value is estimated. ▼ The date as of which the <b>true tax value</b> of the property is estimated. In the case of the 2011 general reassessment, this would be March 1, 2011.</p>

## Overview of Mass Appraisal Methods and Models

The purpose of this section of the rule is to give the assessing official an introduction to, and an overview of, mass appraisal methods and models. It is not the intent to be all-inclusive nor to be the definitive source of information on the topic. Those desiring more detail on the subject are referred to the International Association of Assessing Officers textbook, **Mass Appraisal of Real Property**; copyright © 1999 by the International Association of Assessing Officers, 130 East Randolph Street, Suite 850, Chicago, Illinois 60601-6217.

As defined by the International Association of Assessing Officers and in the Definitions section of this rule, mass appraisal is, "The process of valuing a group of properties as of a given date using common data, standardized methods, and statistical testing." This definition can be compared to single-property appraisal, which is the process of valuing an individual property as of a given date. Although the two differ in the areas of data analysis and the degree of quality control required, they are similar in the steps applied to arrive at a final conclusion of value. Both are applied economic theory and have as a foundation various economic principles and theories.

Mass appraisal and single-property appraisal methods are based on what are known as the three approaches to value. These approaches are the cost approach, the sales comparison approach, and the income approach. They are three distinct ways of looking at property and estimating its value. The approaches to value offer three different alternatives a potential buyer has when deciding to make an offer on a property.

### Cost Approach

The cost approach to value is based on the assumption that potential buyers will pay no more for the subject property than it would cost them to purchase an equally desirable substitute parcel of vacant land and construct an equally desirable substitute improvement. In this approach, the appraiser calculates the cost new of the improvements, subtracts from it accrued depreciation to arrive at an estimate of the improvement's value, and then adds the value of the land as if vacant to arrive at an estimate of the subject property's total value. It can be expressed in a formula as follows:

$$(RCN - D) + LV = V$$

Where:      RCN    = Replacement/Reproduction Cost New of the Improvements  
                 D        = Accrued Depreciation  
                 LV       = Land Value, as if vacant  
                 V        = Total Property Value

### Sales Comparison Approach

The sales comparison approach to value is based on the assumption that potential buyers will pay no more for the subject property than it would cost them to purchase an equally desirable substitute improved property already existing in the market place. In this approach, the appraiser locates sales of comparable improved properties and adjusts the selling prices to reflect the subject property's total value. The adjustments are the quantification of characteristics in properties that cause prices paid to vary. The appraiser considers and compares all possible

differences between the comparable properties and the subject property that could affect value. Objectively verifiable market evidence should be used to determine these items. Items, which are identified as having an influence on value in the market place, are then quantified by the use of their contributory values. These contributory values then become the adjustments which are added to, or subtracted from, the selling price of the comparable property.

The sales comparison approach can be expressed in a formula as follows:

$$SP \pm Adj = V$$

Where:      SP      = Sale Price of a Comparable Improved Property  
              ±      = Plus or minus  
              Adj     = Adjustments  
              V      = Total Property Value

### **Income Approach**

The income approach to value is based on the assumption that potential buyers will pay no more for the subject property than it would cost them to purchase an equally desirable substitute investment that offers the same return and risk as the subject property. It considers the subject property as an investment and, to that end; its value is based on the rent it will produce for the owner. It can be expressed in a formula as follows:

$$V = I \div R$$

Where:      V      = Value  
              I      = Income  
              R      = Rate

### **Using the Three Approaches**

All three approaches to value are the basis for any single-property or mass appraisal "model" used by an appraiser. A "model" is defined by the International Association of Assessing Officers, and in the Definition section of this rule, as "A representation of how something works; for purposes of appraisal, a representation (in words or an equation) that explains the relationship between value ... and variables representing factors of supply and demand." The appraisal model selected and used by the appraiser can be thought of as the formula that is mathematically processed to arrive at an estimate of value for a property. Therefore, the formulas given for the three approaches to value above could be referred to as "models".

These general models of the three approaches to value outlined above can be refined and expanded through a process referred to as model specification. Model specification is the designing of a model that is based upon appraisal theory and attempts to reflect the actions of buyers and sellers in the market. Specification of a model includes choosing variables to be included in the formula and mathematically defining their relationship to each other and the property's value.

For example, the specification of a simple model is expressed below:

$$(SF, X \$, /SF) + (SFL X \$L/SF) = V$$

Where: SF = Improvement area in square feet  
 \$/SF = Unit price of the improvement per square foot  
 SF<sub>L</sub> = Land area in square feet  
 S<sub>L</sub>/SF = Unit price of the land per square foot  
 V = Total Property Value

The model could be even further refined as follows:

$$NHF X [(SF, X \$, /SF) + (SF_L X \$L/SF) ] = V$$

Where: NHF = Neighborhood Factor  
 SF = Improvement area in square feet  
 \$/SF = Unit price of the improvement per square foot  
 SF<sub>L</sub> = Land area in square feet  
 S<sub>L</sub>/SF = Unit price of the land per square foot  
 V = Total Property Value

As can be seen from the above demonstration, models can become very sophisticated in their attempt to reflect market conditions.

There are a multitude of models that have been developed for the mass appraisal process by assessing officials, vendors, and academics. Any of these models may be capable of producing accurate and uniform values for a particular class of property within a specified geographic area. However, not all models can be used for every type of property or in every jurisdiction nor do they all offer ease in administration. The market dictates what type of models should be used and administrative constraints, such as knowledge of the user and budget concerns, dictate what models can be used.

Whatever mass appraisal method(s) and model(s) a county chooses, they must be capable of producing accurate and uniform values throughout the jurisdiction and across all classes of property. The standards of accuracy and validation the Department of Local Government Finance will use to judge alternative mass appraisal methods are stated in the section of this manual entitled "Approval of Mass Appraisal Methods."

## **Minimum Data Requirements**

Any mass appraisal method selected by a county must have certain types of data available. These minimum data requirements are intended to allow taxpayers to understand the valuation process and provide the necessary information for the Department of Local Government Finance to perform its duties. These requirements are not intended to be restrictive but only to standardize the minimum data each county must have in its mass appraisal method. Any additional data a county wishes to collect is allowed under this rule.

### **Property Specific Characteristics:**

- Parcel Number
- County
- Township
- Corporation
- Rectangular Survey Section #
- Subdivision/Plat Name
- Ownership information
- Street Address
- SBTC Property Class Code (See Appendix A)
- SBTC Taxing District #
- Neighborhood Code (residential only)
- SBTC Land Type Code (See Appendix B)
- Land dimensions
- Land Size
- Improvement(s) Sketch with labels
- Improvement Photograph (principal structure)
- Year of Construction for all improvements
- Condition Rating of all improvements
- Sales History with sales prices, annotated for any adjustments
- Assessment History from the last reassessment forward; broken down by land, improvement, and total

### **Comparative Data:**

- Copies of all sales disclosure statements

## **Approval of Mass Appraisal Methods**

The following steps shall be followed in approving a mass appraisal method:

1) Each county assessor shall become knowledgeable as to the various methods of mass appraisal available. All mass appraisal methods considered shall comply with the minimum data requirements outlined in this manual.

2) The county assessor shall then make a final determination as to which mass appraisal method he/she prefers to be used in the county after discussions with other assessing officials in the county.

3) The county assessor shall forward to the Department of Local Government Finance the mass appraisal method recommended by the county. The submission to the Department of Local Government Finance shall include enough detail on the method to allow it to be adequately reviewed.

4) The Department of Local Government Finance shall review the submission using the following criteria:

- a) ability to accurately measure "True Tax Value" as defined in this manual;
- b) ease of administration by local assessing officials;
- c) ability to be understood by taxpayers;
- d) adherence to appraisal principles;
- e) statistical support;
- f) ability to produce data to be used in county and state ratio studies;
- g) compliance with the following statistical support guidelines:<sup>2</sup>
  - 1. statistical models must have a sound foundation in assessment, appraisal, and economic theory;
  - 2. the model must generally generate random error terms as opposed to non-random error terms;
  - 3. a general, unrestricted model that is simplified through analysis is better than an overly simple model that systematically adds variables to achieve better fit (i.e. overspecification). Generally, assessments must be based on the simpler of two models that produce equivalent results;
  - 4. the model must be tested on a random selection of parcels for accuracy and goodness of fit;
  - 5. the model must be able to incorporate rival models. That is, it must be able to explain the results, or lack thereof, for alternative models;
  - 6. the explanation of the model must include a full description of the steps used to create the model and intermediate results that were achieved;
  - 7. the explanation of the model must consider a variety of statistical measures as opposed to just the correlation coefficient (e.g. distribution of error terms, F statistic, sample size and error, etc.);

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<sup>2</sup> Part of this text are from "A Guide to Econometrics", Peter Kennedy, 3'd Ed., 1996, pg. 77-78



5) The Department of Local Government Finance shall approve or deny the use of the method.

6) Upon approval by the Department of Local Government Finance, the local assessing officials shall note on township and county assessment records the date of approval of the mass appraisal method and shall include such notation on each property record card as required by IC 6-1.1-31-5.

7) If a county fails to select a mass appraisal method under this procedure, it shall be required to use the Guidelines adopted by the Department of Local Government Finance.

The easiest way for a county to satisfy these criteria is to import a mass appraisal method with an existing computer assisted mass appraisal (CAMA) system that is used in substantially the same form in another assessing jurisdiction. This will allow the Department of Local Government Finance to review the method's output from these other jurisdictions in making its determination as to the acceptability of the method.

#### **Responsibilities of Assessing Officials in Reassessment**

**Department of Local Government Finance (DLGF)** - In addition to the statutory duties assigned to it under various chapters of IC 6-1.1, the DLGF will be responsible for:

- Approving the mass appraisal methods selected by the counties of the state.
- Conducting reviews of mass appraisal methods to ensure compliance with applicable laws.
- Conducting assessment ratio studies to determine the accuracy and uniformity of locally determined assessments.
- Reviewing assessment ratio studies and equalization conducted by county assessors.

**Property Tax Assessment Board of Appeals (PTABOA)** - In addition to the statutory duties assigned to them under various chapters of IC 6-1.1, the county PTABOA's will be responsible for:

- Reviewing land value base rates set by township and county assessors prior to these rates being used to assess.
- Conducting public hearings on land value base rates set by township and county assessors prior to these rates being used to assess real property.
- Adjusting land value base rates, where necessary, in conjunction with counties contiguous to their counties to ensure cross-county uniformity.

**County Assessor** - In addition to the statutory duties assigned to them under various chapters of IC 6-1.1, the county assessors will be responsible for:

- Reviewing mass appraisal methods for their applicability to the assessment of property within their respective counties.
- Conducting discussions with township and trustee assessors to select a mass appraisal method to be used within their respective counties.

- Directing the township and trustee assessors in the uniform valuation of land within their respective counties.
- Submitting to the DLGF the mass appraisal method selected by assessing officials within their respective counties.
- Conducting assessment ratio studies to determine the accuracy and uniformity of assessments within the county.
- Equalizing assessments countywide and, where not performed by a township assessor, within townships.

**Township and Trustee Assessor** - In addition to the statutory duties assigned to them under various chapters of IC 6-1.1, the township and trustee assessors are responsible for:

- Determining land value base rates.
- Using the mass appraisal method selected by the county assessing officials and approved by the DLGF.
- Conducting assessment ratio studies to determine the accuracy and uniformity of assessments within their respective township.
- Equalizing assessments within the township.

## Assessment Ratio Studies and Equalization

The accuracy and uniformity of the assessments produced by any mass appraisal method shall be measured by an assessment ratio study. Should the results of the study show the assessments to be inaccurate and/or non-uniform, equalization shall be the remedy.

### Assessment Ratio Studies

A ratio study is a measure of the performance of a mass appraisal method. It compares the assessing official's estimate of value with objectively verifiable data. The objectively verifiable data used in the comparison comes from selling prices and single-property appraisals prepared independent of the assessment process. Sales based ratio studies are preferred because they are less expensive and are more objective than independent single property appraisals.

The ratios used in assessment ratio studies are computed on individual properties by dividing the assessing official's estimate of assessed value, for the property by the sale price, or by an appraised value developed by single-property appraisal methods. If sale price was used, the ratio would be known as the assessment-sale price ratio. If appraised value was used, the ratio would be known as the assessment-appraisal ratio. The formula for an assessment-sale price ratio follows:

	$A/S = (AV) \div SP$
Where:	A/S = Assessment-sale Price Ratio AV = Assessed Value SP = Sale Price
	*This variable is excluded for non-owner occupied property

For example, assume a property sold for \$104,000 and was assessed for \$79,000. Applying the above formula would yield the following:

$$A/S = (\$79,000) \div \$104,000$$

$$A/S = 0.7596 \text{ Rounded to } 0.76$$

In this example, the assessment-sale price ratio would be 0.76, which is the equivalent of seventy-six percent (76%). In other words, this property is assessed at seventy-six (76%) of the value it should be assessed. Ideally, all assessment ratios should be at one hundred percent (100%) in order to be considered accurate.

The ratio study uses assessment ratios as the basic data to measure the performance of a mass appraisal method. It statistically measures the accuracy and uniformity of the assessments produced by the mass appraisal method. Accuracy is measured through the application of statistics by measures of central tendency. Uniformity is measured through the application of statistics by measures of relative dispersion.

The statistical measure of central tendency most often used in assessment ratio studies is the median. The statistical measure of relative dispersion most often used is the coefficient of dispersion about the median. Both of these measures are defined in the definitions section of this rule.

The median assessment ratio reveals the “average” level at which property is assessed. If, for example, the median assessment ratio for single-family homes in a particular neighborhood is 0.86 (86%) the conclusion can be drawn that, on the average, all homes are assessed at 86% of their value. If the assessment level is supposed to be 100% for this neighborhood, then the ratio study has shown that single-family homes are underassessed and, therefore, not accurately assessed. Ideally, the median should be at 1.00 (100%). This means all properties are, on the average, accurately assessed. But since mass appraisal methods produce only estimates of value and are not an exact science, the actual median assessment ratio may vary from the ideal.

The coefficient of dispersion reveals the “average” difference between individual assessment ratios and the median assessment ratio. It demonstrates the typical amount of deviation the individual assessment ratios have from the median. If, for example, the coefficient of dispersion about the median ratio for single-family homes in a particular neighborhood is 0.18 (18%) the conclusion can be drawn that the individual assessment ratios deviate, on the average, plus or minus 18% from the median assessment ratio. Ideally, the coefficient of dispersion should be at 0 (0%). This means all properties are assessed at the level shown by the median and, therefore, no deviation is present. But, like the median assessment ratio, the actual coefficient of dispersion may vary from the ideal.

### **Equalization**

Standards for evaluating the accuracy and uniformity of mass appraisal methods have been developed by the assessing community. These standards state the overall level of assessment, as determined by the median assessment ratio, should be within ten percent (10%) of the legal level. In Indiana, this means the median assessment ratio within a jurisdiction should fall between 0.90 (90%) and 1.10 (110%) in order to be considered accurate. This standard of ten percent (10%) on either side of the value provides a reasonable and constructive range for measuring mass appraisal methods.

These standards also state the coefficient of dispersion about the median should be at 0.15 (15%) or less for single-family residences and 0.20 (20%) or less for other classes of property. If the coefficient of dispersion is at, or below, these standards, then the mass appraisal method has produced uniform assessments. However, if the coefficient of dispersion is above these standards, then the mass appraisal method has produced non-uniform assessments.

Whenever inaccurate and/or non-uniform assessments are present, the county assessor and the Department of Local Government Finance are required to equalize assessments. Equalization of assessments is the process of ensuring all property is, on the average, accurately and uniformly assessed. The equalization process can be accomplished in two ways; through the application of factors to correct the accuracy and through reassessment to correct non-uniformity.

The following decision chart shows when each of the equalization procedures are appropriate:

Median Assessment Ratio	Coefficient of Dispersion	Action Required
Accurate (0.90 to 1.10)	Uniform ( $\leq 0.15$ )	Nothing
Accurate (0.90 to 1.10)	Non-uniform	Reassess
Inaccurate	Uniform ( $\leq 0.15$ )	Apply Factors
Inaccurate	Non-uniform	Reassess

More details on assessment ratio studies and equalization will be found in the equalization rule, 50 IAC 14.

## Introduction

A general reassessment of all real property within the state is required as of March 1, 2002. The next general reassessment is statutorily required for March 1, 2006-2011. This assessment manual contains the rules for assessing real property located in Indiana for the March 1, 2002, through March 1, 2005, assessment dates. It includes a number of changes from prior reassessment manuals issued by the State Board of Tax Commissioners. 2011, assessment date.

The foundations upon which this assessment manual is built are established by the Indiana Constitution and the statutes of the Indiana General Assembly. Article X, Section 1 of the Indiana Constitution requires:

a system of assessment and taxation characterized by uniformity, equality and just valuation based on property wealth, but the Clause does not require absolute and precise exactitude as to the uniformity and equality of each individual assessment.<sup>1</sup>

IC 6-1.1-31-6(c) and 6-1.1-31-7(d) further define True Tax Value: "True tax value does not mean fair market value." It is within this structure, and that required by the courts, that True Tax Value, as expressed in this manual, seeks to operate. IC 6-1.1-31-6(c) goes on to state that: "True tax value is the value determined under the rules of the State Board of Tax Commissioners." Given that the courts and statutes do not fully define true tax value, it is incumbent upon the State Board of Tax Commissioners to develop a definition that satisfies both statutory and judicial requirements by providing a definition that measures property wealth, but is not fair market value.

True tax value, therefore, is defined as:

The market value in use of a property for its current use, as reflected by the utility received by the owner or a similar user, from the property

It is this definition, therefore, that sets the standard upon which assessments may be judged. Although this assessment manual provides general rules for assessing property, situations may arise that are not explained or that result in assessments that may be inconsistent with this definition. In those cases the assessor shall be expected to adjust the assessment to comply with this definition and may ask the State Board to consider additional factors, pursuant to IC 6-1.1-31-5, to accomplish this adjustment.

True tax value may be thought of as the ask price of property by its owner, because this value more clearly represents the utility obtained from the property, and the ask price represents how much utility must be replaced to induce the owner to abandon the property. In markets in which sales are not representative of utilities, either because the utility derived is higher than indicated sale prices, or in markets where owners are motivated by non-market factors such as the maintenance of a farming lifestyle even in the face of a higher use value for some other purpose, true tax value will not equal value in exchange. In markets where there are regular exchanges, so

<sup>1</sup> *State Board of Tax Commissioners v. Town of St. John*, 702 N.E.2d 1034, 1040 (Ind. 1998).

that ask and offer prices converge, true tax value will equal value in exchange, except for owner occupied housing units, where true tax value will be equal to the value in exchange.

To satisfy the requirements imposed by the courts and the legislature, True Tax Value uses fair market value data of property wealth, but derives values that are not based strictly on fair market value. Instead, True Tax Value gives recognition to two principles of the theory of wealth and value that fair market value does not adequately capture: (1) the concept of value-in-use; and (2) the recognition that "wealth" at its core is not an absolute, but rather to some degree, a comparative term.

Based on the decisions provided by recent court rulings, the basis for True Tax Value outlined in this manual is value-in-use as opposed to value-in-exchange. This concept incorporates objectively verifiable data leading to a determination of property wealth. Property wealth under a value-in-use premise may or may not be the same as market value depending on the specific characteristics of the property. The following definition provides guidance for determining the True Tax Value under a value-in-use approach:

*Use Value: The value a specific property has for a specific use.<sup>2</sup>*

IC 6-1.1-31-6(c) provides that "true tax value is the value determined under the rules of the department of local government finance." In the case of agricultural land, true tax value shall be the value determined in accordance with the Guidelines adopted by the Department of Local Government Finance. In the case of all other real property, true tax value shall mean market value, which is defined as follows:

The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress.<sup>1</sup>

The true tax value of property under this definition shall be determined as of the applicable assessment date.

Traditionally, the appraisal profession has used three approaches, or three methods, in determining the value of real property. Three standard approaches are used to determine market value. The first approach, known as the *cost approach*, estimates the value of the land as if vacant and then adds the depreciated cost new of the improvements to arrive at a total estimate of value. The second approach, known as the *sales comparison approach*, estimates the total value of the property directly by comparing it to similar, or comparable, properties that have sold in the market. The third approach, known as the *income approach*, is used for income producing properties that are typically rented. It converts an estimate of income, or rent, the property is

<sup>2</sup> Appraisal Institute, *The Dictionary of Real Estate Appraisal*, pg. 383. (1993)

<sup>1</sup> Appraisal Institute, *The Dictionary of Real Estate Appraisal*, p. 177 (2002).

expected to produce into value through a mathematical process known as capitalization. Each of these approaches is appropriate for determining the true tax value of property under the definition provided in this manual. The approaches to determining market value and the reconciliation of such approaches shall be applied in accordance with generally recognized appraisal principles. Standard appraisal and valuation texts such as those published by the Appraisal Institute and the International Association of Assessing Officers, are acceptable sources for determining such principles. The estimate of market value shall be based on the property's highest and best use as determined by the application of such appraisal principles.

~~All three of these approaches, when properly processed, should produce approximately the same estimate of value. Fee appraisers use all three approaches when appraising individual properties. However, assessing officials are faced with the responsibility of valuing all properties within their jurisdictions during a reassessment and often times do not have the data or time to apply all three approaches to each property. Therefore, the cost approach has historically been used in mass appraisal by assessing officials since data is available to apply it to all properties within a jurisdiction. The cost approach also lends itself to mass appraisal because it is easily adapted to computer systems.~~

~~Replacement cost is preferred as opposed to reproduction cost because replacement cost estimates the cost of a physical structure with similar utility. This estimate of cost should be closely aligned with value-in-use.~~

~~Property wealth estimated by value-in-use often approximates value-in-exchange in instances where property types are frequently exchanged and used by both buyer and seller for the same purpose. A good example of this outcome is a small neighborhood retail center that is well occupied and maintained. Property wealth under value-in-use will be different from value-in-exchange. One instance is for special-purpose industrial properties where value-in-exchange occurs only infrequently and under special circumstances.~~

~~Special-purpose properties often have very different property wealth estimates under a value-in-use scenario as opposed to value-in-exchange due to the motivations of the parties involved. This difference can be expressed as the difference between the bid and ask price for a special-purpose asset. The bid price is what a buyer is willing to pay to purchase an asset, the ask price is what the seller is willing to take in exchange for an asset. Typically, the bid price will initially be lower than the ask price, some negotiation will occur, and when the two are equal an exchange will take place.~~

~~In assessment, we are estimating how this negotiation will be resolved as of January 1, 1999. For property types that are frequently traded, the bid and ask price are likely to be fairly similar. For properties that are infrequently exchanged, or that are only exchanged under extraordinary circumstances, this difference between the bid and ask price is likely to be wider and more difficult to reconcile.~~

~~A seller of a special-purpose industrial property would accept nothing less than a price equal to the utility being gained from the property. For properties currently in-use, this amount would be termed the value-in-use (i.e. the ask price). A buyer of a special-purpose property would initially bid no more than necessary to motivate the seller. A buyer would likely start with a low bid such~~



as the liquidation value of the property. Assuming that the buyer intends to use the property for its current use, the buyer will likely adjust the bid price until a transaction is completed. Since the seller has no motivation to sell at anything less than the value in use for a special purpose property, the ask price becomes the benchmark for a likely transaction under a value in use scenario. In the case in which the seller adjusts its opening price and actually consummates a transaction with the buyer at an agreed price, the bid and ask prices coincide and reflect the value in use of the property.

As noted previously, some types of fair market value data or valuation methods may be used to calculate True Tax Values, but these data and methods may be used only as described in these rules. In general, such methods will be applicable only if they rely on data that was readily available to the assessor at the time the assessment was made and they represent a reliable indicator of value based on the value in use premise or except as the Board may provide in its equalization rule. Fee appraisals of the subject property, or comparable sales approaches, that estimate the market value of improvements may be considered in determining true tax value if they are based on the value in use standard and utilize market information that is relevant to the subject property under the assumption that a potential purchaser would continue the existing use of the subject property. Whether a comparable sales approach or an income approach is a reliable indicator of the true tax value of commercial and industrial property under the value in use standard must be determined on a case-by-case basis. If the property is a single-use or specialty property and there is no market for the property, the comparable sales approach may be inapplicable depending on the facts. Single-use or specialty property for this purpose means property which is so uniquely designed and adapted for the business conducted upon it or the use made of it and which cannot be converted to other uses without the expenditure of significant sums of money. When others could feasibly use the property for the same general commercial or industrial purpose, e.g. light manufacturing, general retail, or other use type defined in this manual, comparable sales data may be employed to determine true tax value if the data is reliable, the sampled property sales are reasonably comparable based on accepted appraisal standards, and the data was reasonably available to the assessor at the time the assessment was made.

For the purposes of this provision, "readily available" means information reasonably imputed to be information that the assessor should know is relative to the assessment, that the assessor is aware exists, and could have been accessed with reasonable ease or that the assessor could have availed himself/herself of with reasonable ease. Likewise, any information held, possessed or controlled by a taxpayer that is not furnished to the assessor prior to the assessment date, or otherwise made available and known to the assessor, cannot be considered readily available to the assessor. Information in the hands of a taxpayer is "readily available" to the assessor, however, if the taxpayer offers to make the information available to the assessor and describes the general grounds for its relevance to the assessment before the assessment date, even if the information itself is not provided to the assessor. If the underlying data are disclosed prior to the assessment date, they may then be used to develop appraisal reports or other opinions of value. For example, if a taxpayer discloses the existence of a plant bottleneck to the assessor prior to the assessment date and indicates that the taxpayer's records may support the application of functional obsolescence to recognize the effect such bottleneck may have on value, the taxpayer would have satisfied the "readily available" standard even if the taxpayer waited until after the assessment date to have a full appraisal prepared considering this effect.

~~This methodology meets the court's recent ruling that each taxpayer does not have the right to "absolute and precise exactitude as to the uniformity and equality of each individual assessment... nor does it [the Property Taxation Clause of the Constitution of Indiana] mandate the consideration of independent property wealth evidence in individual assessments or tax appeals<sup>3</sup>. The analysis relies in part on neighborhood and industry wide data in adjusting for depreciation and in doing so incorporates objective and verifiable data. Appeal of assessments must operate within the rules and utilize data in the same manner as provided in this manual. In general, this requires that challenges to assessments be proven with aggregate data, rather than individual evidence of property wealth. Since assessments are calculated using aggregate data, it is not permissible to use individual data without first establishing its comparability or lack thereof to the aggregate data. By requiring taxpayers to make any internal data "readily available" assessors are given the opportunity to establish this comparability.~~

~~There shall be a presumption that the value determined according to rules prescribed in this manual is the true tax value of the subject property. However, the taxpayer shall be permitted to offer evidence relevant to the fair market value in use of the property to rebut such presumption and to establish the actual true tax value of the property as long as such information is consistent with the definition of true tax value provided in this manual and was readily available to the assessor at the time the assessment was made. Such evidence may include actual construction costs, sales information regarding the subject or comparable properties, appraisals that are relevant to the market value in use of the property, and any other information compiled in accordance with generally accepted appraisal principles.~~

~~Further definitions that help to explain the concepts explained in this introduction include value and property wealth:~~

~~Value: Use value, the value a specific property has for a specific use.~~

~~Property Wealth: The abundance of economic utility realized from property rights.~~

The Guidelines adopted by the Department of Local Government Finance provide procedures and schedules that are acceptable in determining true tax value under the cost approach. Assessing officials may also consider other relevant information in applying the cost approach and may also use either the sales comparison approach or the income approach, or both, in determining true tax value if they are applicable to the type of property being assessed and if relevant and reliable data is available to support the use of such approaches.

An assessment determined by an assessing official in accordance with this manual shall be presumed to be correct. Any evidence relevant to the true tax value of the property as of the assessment date may be presented to rebut the presumption of correctness of the assessment. Such evidence may include an appraisal prepared in accordance with generally recognized appraisal standards. However, there is no requirement that an appraisal be presented either to support or to rebut an assessment. Instead, the validity of the assessment shall be evaluated on the basis of all relevant evidence presented. Whether an assessment is correct shall be

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<sup>3</sup> *State Board of Tax Commissioners v. Town of St. John*, 702 N.E.2d 1034 (Ind. 1998).

determined on the basis of whether, in light of the relevant evidence, it reflects the property's true tax value as defined in this manual.

~~Finally, as stated previously, the most important factor in assuring uniformity and equity of assessments is the application of a standard definition of value and/or property wealth. As important as the specific rules may be, it is critical that assessors test and adjust their assessments to meet the standard set out previously in the definition of true tax value. The county assessor shall also utilize assessment studies, as provided in a separate rule, as a means to attain a just and equal basis of assessment among taxpayers in the county under IC 6-1.1-13-6. Assessment studies seek to measure both the level of assessment and level of uniformity within assessing jurisdictions and property classes.~~

Level of assessment refers to the extent to which property assessments approximate legally mandated assessed valuation standards. By comparing the certified assessed values of sample parcels within townships with values based on the valuation standards, assessment ratios can be calculated for each township in a county. These ratios will serve as a basis for level of assessment measures.

Level of uniformity refers to the degree to which property classes are equally assessed within assessing jurisdictions. Based on assessment ratio data for each township in a county, various statistical measures, including coefficient of dispersion, can be applied to determine the level of uniformity within assessing jurisdictions.

Data utilized to measure level of assessment and levels of uniformity are to be used by county assessors to equalize the assessed value of property within the county. ~~If equalization is justified, statistical analysis will provide information as to the degree of adjustments required to bring local assessed values into compliance with legally mandated standards. When deemed necessary to equalize assessments between or within townships or between classes of property, or when deemed necessary to raise or lower assessments within a county or any part thereof to the level prescribed by law, the county assessor shall apply a percentage increase or decrease to individual assessments to attain just and equal assessments.~~

Assessment studies generally involve five basic steps: (1) definition of purpose and objectives, (2) collection and preparation of market data, (3) matching appraisal and market data, for consistency, (4) statistical analysis, and (5) evaluation and use of results.

### Concept

~~The underlying concept of this manual is to provide a definition of "True Tax Value" and then allow local assessing officials to select any acceptable mass appraisal method to arrive at that value. The important considerations in choosing a mass appraisal method will be the ease of administration and the accuracy and uniformity of the assessments produced. This allows the assessing official to focus more on the results of the reassessment and less on the process used to accomplish it.~~

## Definitions

Definitions preceded by ■ are taken from the publication, **Glossary for Property Appraisal and Assessment**, copyright © 1997 by the International Association of Assessing Officers, 130 East Randolph Street, Suite 850, Chicago, Illinois 60601-6217. Definitions preceded by ▼ are those developed by the ~~State Board of Tax Commissioners~~Department of Local Government Finance. Words in bold print in the definition refer to other words defined in this section.

<b>Appraisal</b>	■ (1) The act of estimating the money value of property. (2) The money value of property as estimated by an appraiser. (3) Of or pertaining to appraising and related functions, for example, appraisal practice, appraisal services.
<b>Appraisal Date</b>	■ The date as of which a property's value is estimated. ▼ The date as of which the <b>true tax value</b> of the property is estimated. In the case of the <del>2002</del> <u>2011</u> general reassessment, this would be <del>January</del> <u>March</u> 1, <del>1999</del> <u>2011</u> .
<b>Appraisal Methods</b>	■ The three methods of appraisal, that is, the <b>cost approach</b> , <b>income approach</b> , and <b>sales comparison approach</b> as defined in the Overview of Mass Appraisal Methods and Models section of this rule. ▼ Any method of estimating value
<b>Arithmetic Mean</b>	■ See <b>mean</b> .
<b>Array</b>	■ An ordered arrangement of data, such as a listing of sales ratios, in order of magnitude. ▼ A ranking of data in order of value. May be either in ascending (lowest to highest) or descending (highest to lowest) order. Also referred to as a rank order.
<b>Assess</b>	■ To value property officially for the purpose of taxation.
<b>Assessed Value</b>	■ The dollar amount for a property entered into the assessment roll. ▼ May differ from <b>true tax value</b> if a fractional assessment system exists. Beginning with the 2001 assessment year, the <b>assessed value</b> will <del>equal</del> <u>equal</u> 100% of the <b>true tax value</b> .
<b>Assessment</b>	■ (1) In general, the official act of determining the amount of the tax base. (2) As applied to property taxes, the official act of discovering, listing, and appraising property, whether performed by an assessor, property tax assessment board of appeals or a court. (3) The value placed on property in the course of such act. See <b>assess</b> .
<b>Assessment-Appraisal Ratio</b>	■ The ratio of the <b>assessed value</b> of a property to an independent appraisal.

<b>Assessment Date</b>	▼ March 1 <sup>st</sup> of any year.
<b>Assessment Equity</b>	■ The degree to which assessments bear a consistent relationship to <b>market value</b> .
<b>Assessment Level</b>	■ The common or overall ratio of <b>assessed values</b> to <b>market values</b> .
<b>Assessment Ratio Study</b>	■ An investigation intended to determine the <b>assessment ratio</b> and <b>assessment equity</b> .
<b>Assessment-Sale Price Ratio</b>	■ The ratio of the assessed value to the <b>sale price</b> (or adjusted sale price) of a property.
<b>Average</b>	■ The arithmetic <b>mean</b> .
<b>Central Tendency</b>	■ (1) The tendency of most kinds of data to cluster around some typical or central value, such as the mean, median, or mode. (2) By extension, any or all such statistics.
<b>Coefficient of Dispersion</b>	■ The <b>average deviation</b> of a group of numbers from the on <b>median</b> expressed as a percentage of the median. In ratio studies, the average percentage deviation from the median ratio.
<b>Comparable Sales</b>	■ Recently sold properties that are similar in important respects to a property being appraised; sometime referred to as "comparables".
<b>Dispersion</b>	■ The degree to which data are distributed either tightly or loosely around a measure of central tendency.
<b>Equalization</b>	■ The process by which an appropriate governmental body attempts to ensure that all property under its jurisdiction is appraised at the same ratio or as required by law.
<b>Fractional Assessment</b>	■ Assessment at a fraction (percentage) of full value, or of such standard as may be fixed by law. Note: Fractional assessment may constitute underassessment, or it may be sanctioned by law. ▼ In Indiana, up to and including the 2000 assessment year, the statutes allowed for fractional assessments of 33-1/3% of <b>true tax value</b> . Beginning with the 2001 assessment year, fractional assessments no longer legally exist because the statute raises the assessment level to 100% of true tax value
<b>Level of Assessment</b>	■ See <b>assessment level</b> and <b>assessment ratio</b> .
<b>Lien Date</b>	■ The date on which an obligation, such as a property tax bill (usually in an amount yet to be determined), attaches to a property and the property

becomes security against its payment.

## Market Value

■ The most probable price (in terms of money) which a property should bring, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive and open market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently and, knowledgeably, and for self-interest, and assuming the price is not affected by that neither is under undue stimulus or duress. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby

- The buyer and seller are typically motivated;
- Both parties are well informed or advised and act in what they consider their best interests;
- A reasonable time is allowed for exposure in the open market;
- Payment is made in terms of cash or in terms of financial arrangements comparable thereto;
- The price is unaffected by special financing or concessions.

**Market Value in Use** See **value in use**. Synonymous with **Use Value**.

## Mass Appraisal

■ The process of valuing a group of properties as of a given date using common data, standardized methods, and statistical testing

## Mean

■ A **measure of central tendency**. The result of adding all the values of a variable and dividing the number of values.

## Measures of Central Tendency

■ A single point in a range of observations around which the observations tend to cluster. The three most commonly used **measures of central tendency** are the **mean**, **median**, and **mode**.

## Median

■ A **measure of central tendency**. When the number of items is odd, the value of the middle item when the items are arrayed by size. When the number of items is even, the arithmetic average of the two central items when the items are similarly arranged. Thus, a positional average that is not affected by the size of extreme values.

## Mode

■ The most frequently occurring observation in an array.

## Model

■ (1) A representation of how something works. (2) For purposes of appraisal, a representation (in words or an equation) that explains the relationship between value or estimated sale price and variables

representing factors of supply and demand

<b>Property Wealth</b>	■ The abundance of economic utility realized from property rights. <del>A relative concept that reflects the difference between the property owned by the taxpayer and the minimum amount necessary to sustain life</del>
<b>Ratio Study</b>	■ A study of the relationship between appraised or <b>assessed values and market values</b> . Indicators of market values may be either sales ( <b>sales ratio study</b> ) or independent “expert” appraisals (appraisal ratio study). Of common interest in ratio studies are the level uniformity of the <b>appraisal or assessments</b> .
<b>Reassessment</b>	■ The re-listing and reappraisal of all property in a jurisdiction or portion thereof. Also called reappraisal or revaluation.
<b>Replacement Cost</b>	■ The cost, including material, labor, and overhead, which would be incurred in constructing an improvement having the same utility to its owner as a subject improvement.
<b>Reproduction Cost</b>	■ The cost of constructing a new improvement, reasonably identical with the subject improvement, using the same materials, construction standards, design, and quality of workmanship.
<b>Sale Price</b>	■ Amount paid for an item.
<b>Sales Ratio Study</b>	■ A <b>ratio study</b> that uses sales prices as a proxy for market values.
<b>Single-Property Appraisal</b>	■ Appraisal of properties one at a time. Contrasts with <b>Mass Appraisal</b> .
<b>Statistics</b>	■ (1) Numerical descriptions calculated from a sample. For example, the <b>median, mean, or coefficient of dispersion</b> . Statistics are used to estimate corresponding measures, termed parameters, for the population. (2) The science of studying numerical data systematically and of presenting the results usefully
<b>Subject Property</b>	■ The property being appraised.
<b>Taxable Value</b>	■ The appraised value minus all applicable exemptions, deductions, and abatements. Property taxes are levied on taxable value. ▼ In Indiana, the taxable value is referred to as net assessed value.
<b>True Tax Value</b>	■ <del>The market value in use of a property for its current use. In the case of agricultural land, the value determined in accordance with the Guidelines adopted by the Department of Local Government Finance. In the case of all other property, market value as reflected by the utility received by the owner or a similar user, from the property defined in this manual.</del>

**Use Value**

■ See ~~Value-in-Use~~; synonymous with ~~Market Value-in-Use~~.

**Valuation Date**

■ The date as of which a property's value is estimated. ▼ The date as of which the **true tax value** of the property is estimated. In the case of the ~~2002~~2011 general reassessment, this would be ~~January~~March 1, ~~1999~~2011.

**Value-in-Use**

■ ~~The value of property for a specified use. The concept that holds value to be inherent in property itself; that is, the value is based on the ability of the asset to produce revenue or utility through ownership.~~ ▼ ~~The value a specific property has for a specific use. Synonymous with Use Value and Market Value-in-Use.~~

**Wealth**

~~See Property Wealth.~~



## **Overview of Mass Appraisal Methods and Models**

The purpose of this section of the rule is to give the assessing official an introduction to, and an overview of, mass appraisal methods and models. It is not the intent to be all-inclusive nor to be the definitive source of information on the topic. Those desiring more detail on the subject are referred to the International Association of Assessing Officers textbook, **Mass Appraisal of Real Property**; copyright © 1999 by the International Association of Assessing Officers, 130 East Randolph Street, Suite 850, Chicago, Illinois 60601-6217.

As defined by the International Association of Assessing Officers and in the Definitions section of this rule, mass appraisal is, "The process of valuing a group of properties as of a given date using common data, standardized methods, and statistical testing." This definition can be compared to single-property appraisal, which is the process of valuing an individual property as of a given date. Although the two differ in the areas of data analysis and the degree of quality control required, they are similar in the steps applied to arrive at a final conclusion of value. Both are applied economic theory and have as a foundation various economic principles and theories.

Mass appraisal and single-property appraisal methods are based on what are known as the three approaches to value. These approaches are the cost approach, the sales comparison approach, and the income approach. They are three distinct ways of looking at property and estimating its value. The approaches to value offer three different alternatives a potential buyer has when deciding to make an offer on a property.

### **Cost Approach**

The cost approach to value is based on the assumption that potential buyers will pay no more for the subject property, ~~hence they set the subject's value,~~ than it would cost them to purchase an equally desirable substitute parcel of vacant land and construct an equally desirable substitute improvement. In this approach, the appraiser calculates the cost new of the improvements, subtracts from it accrued depreciation to arrive at an estimate of the improvement's value, and then adds the value of the land as if vacant to arrive at an estimate of the subject property's total value. It can be expressed in a formula as follows:

$$(RCN - D) + LV = V$$

Where:      RCN    = Replacement/Reproduction Cost New of the Improvements  
                  D      = Accrued Depreciation  
                  LV     = Land Value, as if vacant  
                  V      = Total Property Value

### **Sales Comparison Approach**

The sales comparison approach to value is based on the assumption that potential buyers will pay no more for the subject property, ~~hence they set the subject's value,~~ than it would cost them to purchase an equally desirable substitute improved property already existing in the market place. In this approach, the appraiser locates sales of comparable improved properties and adjusts the selling prices to reflect the subject property's total value. The adjustments are the quantification of characteristics in properties that cause prices paid to vary. The appraiser considers and

compares all possible differences between the comparable properties and the subject property that could affect value. Objectively verifiable market evidence should be used to determine these items. Items, which are identified as having an influence on value in the market place, are then quantified by the use of their contributory values. These contributory values then become the adjustments which are added to, or subtracted from, the selling price of the comparable property.

The sales comparison approach can be expressed in a formula as follows:

$$SP \pm Adj = V$$

Where: SP = Sale Price of a Comparable Improved Property  
 $\pm$  = Plus or minus  
 Adj = Adjustments  
 V = Total Property Value

### **Income Approach**

The income approach to value is based on the assumption that potential buyers will pay no more for the subject property, ~~hence they set the subject's value,~~ than it would cost them to purchase an equally desirable substitute investment that offers the same return and risk as the subject property. It considers the subject property as an investment and, to that end; its value is based on the rent it will produce for the owner. It can be expressed in a formula as follows:

$$IV + LV = V$$

$$V = I \div R$$

Where: IV = Improvement Value  
 LV = Land Value  
 V = Total Property Value  
I = Income  
R = Rate

### **Using the Three Approaches**

All three approaches to value are the basis for any single-property or mass appraisal "model" used by an appraiser. A "model" is defined by the International Association of Assessing Officers, and in the Definition section of this rule, as "A representation of, how something works; for purposes of appraisal, a representation (in words or an equation) that explains the relationship between value ... and variables representing factors of supply and demand." The appraisal model selected and used by the appraiser can be thought of as the formula that is mathematically processed to arrive at an estimate of value for a property. Therefore, the formulas given for the three approaches to value above could be referred to as "models".

These general models of the three approaches to value outlined above can be refined and expanded through a process referred to as model specification. Model specification is the designing of a model that is based upon appraisal theory and attempts to reflect the actions of buyers and sellers in the market. Specification of a model includes choosing variables to be

included in the formula and mathematically defining their relationship to each other and the property's value.

For example, the specification of a simple model is expressed below:

$$(SF, X \$, /SF) + (SFL X \$L/SF) = V$$

Where:      SF      = Improvement area in square feet  
              \$/SF    = Unit price of the improvement per square foot  
              SF<sub>L</sub>    = Land area in square feet  
              S<sub>L</sub>/SF   = Unit price of the land per square foot  
              V       = Total Property Value

The model could be even further refined as follows:

$$NHF X [(SF, X \$, /SF) + (SF_L X \$L/SF) ] = V$$

Where:      NHF    = Neighborhood Factor  
              SF      = Improvement area in square feet  
              \$/SF    = Unit price of the improvement per square foot  
              SF<sub>L</sub>    = Land area in square feet  
              S<sub>L</sub>/SF   = Unit price of the land per square foot  
              V       = Total Property Value

As can be seen from the above demonstration, models can become very sophisticated in their attempt to reflect market conditions.

There are a multitude of models that have been developed for the mass appraisal process by assessing officials, vendors, and academics. Any of these models may be capable of producing accurate and uniform values for a particular class of property within a specified geographic area. However, not all models can be used for every type of property or in every jurisdiction nor do they all offer ease in administration. The market dictates what type of models should be used and administrative constraints, such as knowledge of the user and budget concerns, dictate what models can be used.

Whatever mass appraisal method(s) and model(s) a county chooses, they must be capable of producing accurate and uniform values throughout the jurisdiction and across all classes of property. The standards of accuracy and validation the ~~State Board~~Department of Local Government Finance will use to judge alternative mass appraisal methods are stated in the section of this manual entitled "Approval of Mass Appraisal Methods."

## **Minimum Data Requirements**

Any mass appraisal method selected by a county must have certain types of data available. These minimum data requirements are intended to allow taxpayers to understand the valuation process and provide the necessary information for the ~~State Board of Tax Commissioners~~Department of Local Government Finance to perform its duties. These requirements are not intended to be restrictive but only to standardize the minimum data each county must have in its mass appraisal method. Any additional data a county wishes to collect is allowed under this rule.

### Property Specific Characteristics:

- Parcel Number
- County
- Township
- Corporation
- Rectangular Survey Section #
- Subdivision/Plat Name
- Ownership information
- Street Address
- SBTC Property Class Code (See Appendix A)
- SBTC Taxing District #
- Neighborhood Code (residential only)
- SBTC Land Type Code (See Appendix B)
- Land dimensions
- Land Size
- Improvement(s) Sketch with labels
- Improvement Photograph (principal structure)
- Year of Construction for all improvements
- Condition Rating of all improvements
- Sales History with sales prices, annotated for any adjustments

- Assessment History from the last reassessment forward; broken down by land, improvement, and total

Comparative Data:

- Copies of all sales disclosure statements

## Approval of Mass Appraisal Methods

~~The State Board of Tax Commissioners will provide assessing officials with an acceptable method of mass appraisal referred to as the 2002 Real Property Assessment Guidelines (Version A). The Guidelines will be issued by the SBTC at the time this rule becomes official. Should assessing officials in any county wish to modify the 2002 Real Property Assessment Guidelines (Version A) or use an alternative method; the following steps shall be followed in approving the modified 2002 Real Property Assessment Guidelines (Version A) or alternative mass appraisal method:~~

1) Each county assessor shall become knowledgeable as to the various methods of mass appraisal available. ~~Included in these methods will be any real property appraisal manuals pre-approved by the State Board of Tax Commissioners. All mass appraisal methods considered shall comply with the minimum data requirements outlined in this manual.~~

2) The county assessor shall ~~call a meeting of all township and trustee assessors within the county and make a proposal as to which mass appraisal method he/she feels is appropriate for the county.~~

3) ~~All elected assessing officials within the county, after having heard the county assessor's proposal, shall make a recommendation to accept the proposed method or propose an alternative method. The county assessor shall then make a final determination as to which mass appraisal method he/she prefers to be used in the county based on the after discussions of with other assessing officials in the group county.~~

3) 4) ~~The county assessor shall forward to the State Board of Tax Commissioners~~Department of Local Government Finance the mass appraisal method recommended by the ~~local assessing officials~~county. The submission to the ~~State Board of Tax Commissioners~~Department of Local Government Finance shall include enough detail on the method to allow it to be adequately reviewed.

4) 5) ~~The State Board of Tax Commissioners~~The Department of Local Government Finance shall review the submission using the following criteria:

- a) ability to accurately measure "True Tax Value" as defined in this manual;
- b) ease of administration by local assessing officials;
- c) ability to be understood by taxpayers;
- d) adherence to appraisal principles;
- e) statistical support;
- f) ability to produce data to be used in county and state ratio studies;
- g) compliance with the following statistical support guidelines:<sup>42</sup>
  1. statistical models must have a sound foundation in assessment, appraisal, and economic theory;
  2. the model must generally generate random error terms as opposed to non-random error terms;
  3. a general, unrestricted model that is simplified through analysis is better than an overly simple model that systematically adds variables to achieve better fit (i.e. overspecification). Generally,

<sup>42</sup> Part of this text are from "A Guide to Econometrics", Peter Kennedy, 3'd Ed., 1996, pg. 77-78

assessments must be based on the simpler of two models that produce equivalent results;

4. the model must be tested on a random selection of parcels for accuracy and goodness of fit;
5. the model must be able to incorporate rival models. That is, it must be able to explain the results, or lack thereof, for alternative models;
6. the explanation of the model must include a full description of the steps used to create the model and intermediate results that were achieved;
7. the explanation of the model must consider a variety of statistical measures as opposed to just the correlation coefficient (e.g. distribution of error terms, F statistic, sample size and error, etc.);

5) ~~6) The State Board of Tax Commissioners~~The Department of Local Government Finance shall approve or deny the use of the method.

6) ~~7) Upon approval by the State Board of Tax Commissioners~~Department of Local Government Finance, the local assessing officials shall note on township and county assessment records the date of approval of the mass appraisal method and shall include such notation on each property record card as required by IC 6-1.1-31-5.

7) ~~8) If a county fails to select a mass appraisal method under this procedure, it shall be required to use the 2002 Real Property Assessment Guidelines (Version A) designated by the State Board of Tax Commissioners~~adopted by the Department of Local Government Finance.

The easiest way for a county to satisfy these criteria is to import a mass appraisal method with an existing computer assisted mass appraisal (CAMA) system that is used in substantially the same form in another assessing jurisdiction. This will allow the ~~State Board of Tax Commissioners~~Department of Local Government Finance to review the method's output from these other jurisdictions in making its determination as to the acceptability of the method. Under this rule, a county assessor may recommend a new and untried method. However, a county desiring to use a new and untried method will have to do more to demonstrate the method's ability to produce accurate and uniform values than if presenting a method that has been used successfully elsewhere. This requirement will include not only documentation but also demonstrable success of the new method on an actual sample of properties.

#### **Responsibilities of Assessing Officials in Reassessment**

**Indiana State Board of Tax Commissioners (SBTC)Department of Local Government Finance (DLGF)** - In addition to the statutory duties assigned to it under various chapters of IC 6-1.1, the SBTCDLGF will be responsible for:

- Approving the mass appraisal methods selected by the counties of the state.

- Conducting reviews of mass appraisal methods to ensure compliance with applicable laws.
- Conducting assessment ratio studies to determine the accuracy and uniformity of locally determined assessments.
- Reviewing assessment ratio studies and equalization conducted by county assessors.

**Property Tax Assessment Board of Appeals (PTABOA)** - In addition to the statutory duties assigned to them under various chapters of IC 6-1.1, the county PTABOA's will be responsible for:

- Reviewing land value base rates set by township and county assessors prior to these rates being used to assess.
- Conducting public hearings on land value base rates set by township and county assessors prior to these rates being used to assess real property.
- Adjusting land value base rates, where necessary, in conjunction with counties contiguous to their counties to ensure cross-county uniformity.

**County Assessor** - In addition to the statutory duties assigned to them under various chapters of IC 6-1.1, the county assessors will be responsible for:

- Reviewing mass appraisal methods for their applicability to the assessment of property within their respective counties.
- Conducting ~~meeting(s) of~~ discussions with township and trustee assessors to select a mass appraisal method to be used within their respective counties.
- Directing the township and trustee assessors in the uniform valuation of land within their respective counties.
- Submitting to the ~~SBTCDLGF~~ the mass appraisal method selected by assessing officials within their respective counties.
- Conducting assessment ratio studies to determine the accuracy and uniformity of assessments within the county.
- Equalizing assessments countywide and, where not performed by a township assessor, within townships.

**Township and Trustee Assessor** - In addition to the statutory duties assigned to them under various chapters of IC 6-1.1, the township and trustee assessors are responsible for:

- Determining land value base rates.



- Using the mass appraisal method selected by the county assessing officials and approved by the ~~SBT~~CDLGE.
- Conducting assessment ratio studies to determine the accuracy and uniformity of assessments within their respective township.
- Equalizing assessments within the township.



## Assessment Ratio Studies and Equalization

The accuracy and uniformity of the assessments produced by any mass appraisal method shall be measured by an assessment ratio study. Should the results of the study show the assessments to be inaccurate and/or non-uniform, equalization shall be the remedy.

### Assessment Ratio Studies

A ratio study is a measure of the performance of a mass appraisal method. It compares the assessing official's estimate of value with objectively verifiable data. The objectively verifiable data used in the comparison comes from selling prices and single-property appraisals prepared independent of the assessment process. Sales based ratio studies are preferred because they are less expensive and are more objective than independent single property appraisals.

The ratios used in assessment ratio studies are computed on individual properties by dividing the assessing official's estimate of assessed value, for the property by the sale price, or by an appraised value developed by single-property appraisal methods. If sale price was used, the ratio would be known as the assessment-sale price ratio. If appraised value was used, the ratio would be known as the assessment-appraisal ratio. The formula for an assessment-sale price ratio follows:

	$A/S = (AV) \div SP$
Where:	A/S = Assessment-sale Price Ratio AV = Assessed Value SP = Sale Price
	*This variable is excluded for non-owner occupied property

For example, assume a property sold for \$104,000 and was assessed for \$79,000. Applying the above formula would yield the following:

$$A/S = (\$79,000) \div \$104,000$$

$$A/S = 0.7596 \text{ Rounded to } 0.76$$

In this example, the assessment-sale price ratio would be 0.76, which is the equivalent of seventy-six percent (76%). In other words, this property is assessed at seventy-six (76%) of the value it should be assessed. Ideally, all assessment ratios should be at one hundred percent (100%) in order to be considered accurate.

The ratio study uses assessment ratios as the basic data to measure the performance of a mass appraisal method. It statistically measures the accuracy and uniformity of the assessments produced by the mass appraisal method. Accuracy is measured through the application of statistics by measures of central tendency. Uniformity is measured through the application of statistics by measures of relative dispersion.

The statistical measure of central tendency most often used in assessment ratio studies is the median. The statistical measure of relative dispersion most often used is the coefficient of dispersion about the median. Both of these measures are defined in the definitions section of this rule.

The median assessment ratio reveals the “average” level at which property is assessed. If, for example, the median assessment ratio for single-family homes in a particular neighborhood is 0.86 (86%) the conclusion can be drawn that, on the average, all homes are assessed at 86% of their value. If the assessment level is supposed to be 100% for this neighborhood, then the ratio study has shown that single-family homes are underassessed and, therefore, not accurately assessed. Ideally, the median should be at 1.00 (100%). This means all properties are, on the average, accurately assessed. But since mass appraisal methods produce only estimates of value and are not an exact science, the actual median assessment ratio may vary from the ideal.

The coefficient of dispersion reveals the “average” difference between individual assessment ratios and the median assessment ratio. It demonstrates the typical amount of deviation the individual assessment ratios have from the median. If, for example, the coefficient of dispersion about the median ratio for single-family homes in a particular neighborhood is 0.18 (18%) the conclusion can be drawn that the individual assessment ratios deviate, on the average, plus or minus 18% from the median assessment ratio. Ideally, the coefficient of dispersion should be at 0 (0%). This means all properties are assessed at the level shown by the median and, therefore, no deviation is present. But, like the median assessment ratio, the actual coefficient of dispersion may vary from the ideal.

### **Equalization**

Standards for evaluating the accuracy and uniformity of mass appraisal methods have been developed by the assessing community. These standards state the overall level of assessment, as determined by the median assessment ratio, should be within ten percent (10%) of the legal level. In Indiana, this means the median assessment ratio within a jurisdiction should fall between 0.90 (90%) and 1.10 (110%) in order to be considered accurate. This standard of ten percent (10%) on either side of the value provides a reasonable and constructive range for measuring mass appraisal methods.

These standards also state the coefficient of dispersion about the median should be at 0.15 (15%) or less for single-family residences and 0.20 (20%) or less for other classes of property. If the coefficient of dispersion is at, or below, these standards, then the mass appraisal method has produced uniform assessments. However, if the coefficient of dispersion is above these standards, then the mass appraisal method has produced non-uniform assessments.

Whenever inaccurate and/or non-uniform assessments are present, the county assessor and the State Board of Tax Commissioners Department of Local Government Finance are required to equalize assessments. Equalization of assessments is the process of ensuring all property is, on the average, accurately and uniformly assessed. The equalization process can be accomplished in two ways; through the application of factors to correct the accuracy and through reassessment to correct non-uniformity.

The following decision chart shows when each of the equalization procedures are appropriate:

Median Assessment Ratio	Coefficient of Dispersion	Action Required
Accurate (0.90 to 1.10)	Uniform ( $\leq 0.15$ )	Nothing
Accurate (0.90 to 1.10)	Non-uniform	Reassess
Inaccurate	Uniform ( $< 0.15$ )	Apply Factors
Inaccurate	Non-uniform	Reassess

More details on assessment ratio studies and equalization will be found in the equalization rule, 50 IAC 14 (to be promulgated in 2001).14.

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Format change	
Moved deletion	
Inserted cell	
Deleted cell	
Moved cell	
Split/Merged cell	
Padding cell	

Statistics:	
	Count
Insertions	60
Deletions	120
Moved from	1
Moved to	1
Style change	0
Format changed	0
Total changes	182

### Mission of Reassessment

The mission of a reassessment is to inventory, verify, and value all real estate parcels. This process distributes the property tax burden in a uniform and equitable manner. The reassessment of real property includes the following:

- Land
- Buildings and fixtures situated on the land
- Appurtenances to land
- An estate in land or an estate, right, or privilege in mines located on the land or minerals located in the land if the estate, right, or privilege is distinct from the ownership of the surface of the land.

Residential, commercial and industrial land, and agricultural homesites are valued based on values established by the township assessor and reviewed by the Property Tax Assessment Board of Appeals (PTABOA). The ~~primary~~ <sup>applicable</sup> method for valuing buildings and other improvements ~~is the cost of replacing the improvement minus depreciation, but the comparable sales approach and capitalized income approach may be used by the assessor if shown to be applicable.~~ <sup>are</sup> ~~the~~

### Reassessment of Real Property

<sup>11</sup> A general reassessment of all real property within the state is required as of March 1, 2002. ~~The next general reassessment is statutorily required for March 1, 2006.~~ The tax liability resulting from the reassessment is determined by multiplying the net district tax rate by the net assessed valuation of the property less any credits the property may qualify for. All taxes on real property are due in two (2) equal installments on May 10 and November 10 of the following year.

<sup>Government Finance</sup> Assessing officials must follow the rules of the ~~State Board of Tax Commissioners~~ <sup>Department of Local</sup> in making any assessment or reassessment of real property.

Assessing officials must begin the reassessment of real property July 1, 1999, <sup>2009,</sup> and complete it by March 1, 2002. The reassessment period for collecting data, inspecting, and valuing property is thirty-two (32) months.

### Place of Assessment and Person Liable

<sup>11</sup> Real property is assessed at the place where it is situated, and it is assessed to the person liable for the taxes as provided in IC 6-1.1-2-4(b) (c). Generally, the owner of any tangible property on the assessment date of a year is liable for the taxes imposed on the property for that year. However, a person holding, possessing, controlling, or occupying any tangible property on the assessment date of a year is liable for the taxes imposed for that year unless the property is assessed and taxed in the name of the owner, or the owner is liable for the taxes under a contract with that person.

Tangible property of a partnership is listed and assessed in the firm name with each partner jointly and severably liable for the taxes assessed.



This chapter describes the process of valuing commercial and industrial structures. It begins with an overview of the data collection procedure for structures. In order to understand the process of valuing commercial and industrial structures, you need to understand the following concepts, which are described in this chapter:

- sketching a structure
- measuring and calculating areas
- using the general commercial models
- using schedules
- understanding base rates for floor levels
- determining a structure's finish type
- determining a structure's use type
- determining a structure's wall type
- using a structure's floor height
- understanding the perimeter-to-area ratio for a structure
- determining a structure's construction type
- understanding vertical and horizontal costs
- determining the number of property record cards to use for a parcel.

The rest of the chapter provides step-by-step instructions for completing the relevant sections of the commercial/industrial property record card and for determining the true tax value for a structure.

There shall be a presumption that the reproduction or replacement cost determined by the prescribed schedules is the actual reproduction or replacement cost of the subject structure for purposes of determining true tax value. However, either the assessing officials or a taxpayer shall be permitted to consider and use other relevant and reliable information to rebut such presumption and establish the actual reproduction or replacement cost, ~~if the information was readily available to the assessor and taxpayer at the time the assessed value was set.~~

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This appendix describes the concepts of accrued depreciation as applied in assessing:

- Commercial structures
- Industrial structures
- Commercial and Industrial yard structures

This appendix discusses how depreciation is used in the valuation process. It describes how the condition, age, desirability, and utility of a structure affect the determination of accrued depreciation. It provides step-by-step instructions for determining the normal depreciation percentage applicable to individual structures.

This appendix also provides instructions for calculating abnormal obsolescence.

### Understanding the Concept of Depreciation as It Applies to Commercial and Industrial Property

Accrued depreciation is a loss in value to the cost new of the improvements from any and all causes. In estimating the replacement cost new of the improvements, you have determined the upper limit of value that the improvements will have on the valuation date. The accrued depreciation, therefore, is merely the difference between this upper limit of value (replacement cost new) and the true tax value of the improvement.

There are three major categories, or causes, of depreciation:

- **Physical Deterioration** is a loss in value caused by the building materials wearing out over time. It may be caused by wear and tear, use or abuse, action of the elements, and/or insect infestation.
- **Functional Obsolescence** is a loss in value caused by inutility within the improvement. It may be caused by defects in design, style, size, poor room layout, a deficiency, the need for modernization, a superadequacy, and/or by changes in the tastes of potential buyers.
- **External Obsolescence** is caused by an influence outside the property's boundaries that has a negative influence on its value. Noise, air, water, or light pollution; heavy traffic; inharmonious land uses; and/or crime are examples of external obsolescence.

Note: When applying any form of obsolescence the assessor should reevaluate the obsolescence on an annual basis.

In using the cost tables in this manual, you have produced a generalized cost estimation that is referred to as the *replacement cost new* of the structure. Replacement cost new is defined as the cost of constructing a building having the same utility as the subject structure but using modern construction materials, workmanship, and design. In so doing, you have effectively "cured" ~~most~~ forms of functional obsolescence that exist in the structure and, therefore, ~~do not need to account for them in your depreciation estimate.~~

The depreciation on commercial and industrial structures is estimated as a lump sum percentage that accounts for the loss in value from ~~all three of the above categories~~. In this manual, this depreciation percentage will be referred to as **normal depreciation**. Any additional loss in value from ~~atypical forms of obsolescence~~ will be referred to as **abnormal obsolescence** and will be estimated separately from the normal depreciation.

Normal depreciation is estimated through the assignment of typical life expectancies and individual structure condition classifications.

The above examples of the various forms of obsolescence are given to provide typical types found in commercial and industrial properties. However, the obsolescence examples may or may not apply in specific markets depending upon buyer preferences. In other words, what is obsolete in one market may

*beyond normal depreciation.*

*(SOME)*  
primarily  
from  
physical  
deterioration.

THIS STATEMENT IS WRONG. SEE, THE APP. OF REAL ESTATE, 12TH ED., P. 365, ("SOME FORMS OF FUNCTIONAL OBSCOLESCENCE ARE ELIMINATED WHEN REPLACEMENT COST IS USED, BUT OTHER FORMS REMAIN UNAFFECTED.")

not be considered obsolete in another market where there are different influences affecting value.

### Determining the Actual Age of a Structure

The actual age of a structure should be determined from the records of the owner. If this is not available, public records such as building permits or older property record cards may be used.

Structures which have had additions built subsequent to the construction of the principal or original structure must have a "weighted" age calculated to use in place of the actual age when using the commercial and industrial depreciation tables. The method of calculating weighted age is one of weighting the actual age of the original structure and each of its additions by the square footage contained in each part of the structure.

**Note:** Depreciation is based on the number of years that have lapsed from the date of construction and the effective date of valuation. Therefore, in this manual the age of a structure is the difference between its date of construction and January 1, 1999.

**Example:** An industrial plant was originally built forty (40) years ago in 1959 and has had two additions; one twenty (20) years ago in 1979 and the second five (5) years ago in 1994. The original structure contained twenty thousand (20,000) square feet, addition one contained five thousand (5,000) square feet and addition two contained ten thousand (10,000) square feet. The calculation of the weighted age would be as follows:

Part of Structure	Size	Total S.F.	%	Year	Contribution
Original plant	20,000	÷ 35,000	= 57.14	X 1959	= 1,119.43
1 <sup>st</sup> addition	5,000	÷ 35,000	= 14.29	X 1979	= 282.71
2 <sup>nd</sup> addition	10,000	÷ 35,000	= 28.57	X 1994	= 569.71
Totals	35,000		100.00		1,971.85

1,971.85 rounds to the year 1972. Therefore, the structure has a weighted age of twenty-seven (27) years and the assessor would enter 1972 on the property record card in the age column under summary of improvements.

March 1,  
2011.

Change + update  
age  
calculation

### **Understanding the Commercial and Industrial Structure Condition Classifications**

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The assessing official first determines the **structure condition classification** for the structure taking into account its physical condition, any inutilities, and location. The majority of structures will have an average structure condition classification. An average structure condition classification for a structure means it is in the average condition and has the average utility characteristics of the majority of the structures with the same age. Therefore, the structure given an average structure condition classification has experienced representative or typical maintenance and offers the same utility as the majority of structures within its age group.

Structures demonstrating higher maintenance, suffering from less inutility, and having superior locations than the majority of structures in the age group should be given condition classifications of good or excellent. Examples of these types of structures would include a structure having energy efficient replacement windows or a commercial structure that has had the façade modernized.

Structures demonstrating lower maintenance and suffering from more inutility should be given structure condition classifications of fair, poor, and very poor. Examples of these types of structures would include a structure that has a severely deteriorated roof or an industrial structure that is located away from any major form of transportation.

**Table 1. Structure Condition Classifications**, at the end of this appendix, describes the classifications that are to be assigned.

**Determining the Normal Depreciation Percentage**

This section provides the instructions for using the commercial and industrial depreciation tables to calculate the normal depreciation percentage for a structure.

- Step 1 Determine the actual age (weighted age) of the structure using the procedure discussed in the section **Determining the Actual Age of a Structure** earlier in this appendix.
- Step 2 Assign a structure condition classification to the structure by comparing it to structures of similar age. Structure condition classifications are summarized in **Table F-1. Structure Condition Classifications** later in this appendix.
- Step 3 Determine the effective age of the structure by correlating the actual age (weighted age) with the structure condition classification in **Table F-2. Actual Age to Effective Age Conversion Table** located later in this appendix.
- Step 4 Determine the typical life expectancy in years of the structure by referring to **Table F-3. Typical Structure Lives** located later in this appendix.
- Step 5 Go to **Table F-4. Depreciation – Commercial/Industrial Structures** located later in this appendix and find the total life expectancy in year's column that you determined for the structure in Step 4 above.
- Step 6 In the effective age column of the table, locate the row corresponding to the structure's effective age as determined in Step 3 above.
- Step 7 Find the intersection of the selected row (effective age) and the selected column (typical life expectancy). This number is the percentage of normal depreciation from all causes suffered by the structure.

**Example:** A fifteen (15) year old supper club restaurant with a C grade, type 2 framing, has been assigned a structure condition classification of average based upon its physical condition and utility. Its effective age is determined to be fourteen (14) years by correlating its actual age with its structure condition rating in **Table F-2. Effective Age to Actual Age Conversion Table**. The typical life expectancy for a restaurant with a C grade, type 2 framing is thirty-five (35) years as shown in **Table F-3a. Typical Structure Lives**. Referring to **Table F-4. Depreciation – Commercial/Industrial Structures**, we correlate the row for an effective age of fourteen (14) years with the typical life expectancy column for thirty-five (35) years and find a normal depreciation of twenty-nine percent (29.0%).



## Determining Abnormal Functional Obsolence

The normal depreciation that has been estimated as outlined in the first part of this appendix accounts for typical physical deterioration and typical obsolescence. Any abnormal or excessive functional and external obsolescence that affect the structure must be considered separately since they have not been accounted for in the normal depreciation table.

beyond physical depreciation

Abnormal obsolescence is calculated using different methodologies depending upon the type of inutility it represents. There are numerous methodologies and as a general rule, common appraisal concepts and methods may be used to determine obsolescence under true tax value. See *Canal Square v. State Board of Tax Commissioners*. A discussion of some of the most common methods to calculate functional obsolescence is included below. This is not intended to be an exhaustive list, however, any method used by an assessor or by a taxpayer on appeal must establish certain factors of reliability to be used as a basis for awarding obsolescence.

determining

The United States Supreme Court has provided rules for determining the general reliability of scientific and technical evidence used in judicial proceedings in *Daubert v. Merrell Dow Pharmaceuticals*, 113 S. Ct. 2786 (1993). The Board believes that given the acceptance of the *Daubert* standard by Indiana courts that it is appropriate to use these standards as a general indicator of reliability of evidence used to calculate functional obsolescence.

In *Daubert*, the Court held that to be relevant, "[p]roposed testimony must be supported by appropriate validation -- i.e., 'good grounds,' based on what is known." 113 S. Ct. at 2795. In other words to be reliable evidence, a scientific or technical study must satisfy the following conditions:

- Is the evidence reliable?
- Is the evidence relevant? For example, does the evidence "fit" the case?

Relevance may be indicated by:

- whether the theory can be and has been tested;
  - whether the theory has been subject to peer review and published;
  - rate of error and maintenance of standards;
  - general acceptance of the theory in the relevant scientific community.
- Kumcz v. Honda North America, Inc.*, 166 F.R.D. 386, 388 (D.C.Mich 1996)

This discussion inconsistent w/ generally recognized appraisal practice and tax court decisions.

In addition to the general requirements for relevancy discussed above, both the United States Supreme Court and Indiana Supreme Court have recognized that scientific evidence can be reliable for one purpose and not another, and that to be relevant to a particular inquiry, the proponent of the evidence must establish a valid scientific connection between the theory and the specific facts of the case.

*Daubert*, 113 S.Ct. at 2796; *Steward*, 652 N.E.2d at 498.

In addition to the factors applied by the courts to establish reliability, the Board will consider a number of additional factors to determine the relevancy of evidence regarding obsolescence. The first factor is whether the alleged

DLCF

maladies of the property actually lead to a loss of value. Evidence of such loss of value may be based on the assessor's observations of the property, statistical evidence establishing a correlation between the faults of the property and its value, or from anecdotal evidence if sufficiently reliable. In many cases there will be causes of obsolescence that cannot be easily seen by the assessor. In these cases, it is ~~incumbent on the taxpayer~~ <sup>necessary</sup> to establish a link between the evidence and the loss in value. For statistical evidence this may be established by providing sufficient evidence of correlation of the evidence to value. For anecdotal evidence establishing reliability is more difficult. Uncorroborated assertions by the taxpayer in a tax appeal regarding the value of its property ~~are~~ <sup>may be</sup> inherently unreliable unless they can be confirmed either by other statements or by the opinions of impartial observers. For example, a statement by a taxpayer that its property is worthless is not reliable if the same taxpayer has produced sales literature extolling the virtues of the property and discussing its great value. <sup>evidence</sup>

### Most Common Methods for Calculating Functional Obsolescence

Functional obsolescence is calculated using different methodologies depending upon the type of inutility it represents. Listed below are the most common forms of functional obsolescence and the appropriate methodologies used to convert them into a dollar loss in value.

- A **deficiency requiring an addition** is something lacking in the improvement that potential owners of the property desire. An example of this would be an office building without central air conditioning located in a neighborhood where all comparable, competing office buildings have central air conditioning. The depreciation caused by this type of functional obsolescence is calculated by determining the cost of adding (retrofitting) the item less the cost to install the item in new construction. Using the example in this paragraph; a contractor estimates it would cost \$40,000 to add central air conditioning to the office building at the present time and the manual shows the cost new of this air conditioning system is \$30,000. The amount of functional obsolescence would be calculated as follows:

Cost to add (retrofit) air conditioning	\$40,000
Less cost new of air conditioning from manual	- 30,000
Functional Obsolescence	\$10,000

- The **need for modernization** means the improvement has the item desired by the potential owners but it is outdated or inefficient. An example of this would be a ventilating system in an industrial plant that does not effectively remove heat and odors from the manufacturing area. The depreciation caused by this type of functional obsolescence is calculated by taking the cost new of the item, less the physical depreciation already charged, less the salvage value of the existing item (if any), plus the cost to remove the existing item and the added cost to install the new, modern item. Using the example in this paragraph; the cost new of the current ventilating system was \$20,000, it was physically depreciated 50%, had a salvage value as scrap metal of \$500, and the cost to remove the existing system and install the new system was

\$30,000. The amount of functional obsolescence would be calculated as follows:

Cost new of existing system	\$20,000
Less physical depreciation already charged @ 50%	- 10,000
Less salvage value	- 500
Plus cost of removing old and installing new system	+ 30,000
Functional Obsolescence	\$39,500

- A superadequacy in a structure is an item that is bigger, better or larger than potential owners demand. For example, assume you have an apartment building that is heated by a central, gas-fired boiler that produces steam. The boiler has a capacity that is twice as big as necessary to heat the building; therefore, it is superadequate. The depreciation caused by this type of functional obsolescence is calculated by taking the cost new of the item, less the physical deterioration already charged, plus the cost of removal of the item and the installation cost of a new adequate item, less the salvage value (if any) of the superadequate item.

Using the example in this paragraph; the cost new of the existing boiler is \$8,000, it was physically depreciated 80% and had a salvage value of \$200 as scrap metal. The cost to remove the existing boiler and install a new, adequate boiler is \$12,000. The amount of functional obsolescence would be calculated as follows:

Cost new of existing boiler	\$8,000
Less physical depreciation already charged @ 80%	- 6,400
Less salvage value	- 200
Plus cost of removing old and installing new boiler	+ 12,000
Functional Obsolescence	\$13,400

- Excess operating costs are often incurred by a property that suffers functional obsolescence. This means the inutility within the structure <sup>or between</sup> causes the owner to have to pay more to operate the property than he/she would if the inutility did not exist. An example of this would be an industrial property that has had a warehouse addition made to the main plant. Because of the site size and/or zoning restrictions, the warehouse addition was constructed in a manner that makes the movement of materials between the main plant and the warehouse less than efficient, thereby causing inutility. In order to overcome this inutility, the owner of the plant has had to purchase a forklift and hire an operator that would not have been needed had the warehouse been an integral part of the main plant. The depreciation is calculated as follows:

- Sum the annual cost of the operator's wages plus overheads (payroll taxes, insurance, and other benefits) and the annual operating expenses on the forklift (fuel, maintenance, and depreciation).
- Determine the number of years of remaining economic life for the main plant. This is the number of years from the date of valuation until you expect the plant to have a zero value. It is calculated by subtracting the effective age of the plant from its total life

expectancy; both estimated under the normal depreciation procedure.

- c. Discount the total annual excess operating costs over the remaining economic life of the main plant at an appropriate discount rate to get the amount of functional obsolescence. A discussion of "discounting" can be found in any appraisal text that discusses the income approach to value.

**Example:**

Forklift operator's annual wages	\$20,000
Operator's overheads (35% of wages)	7,000
Maintenance on forklift	1,000
Fuel for forklift	3,000
Depreciation on forklift	2,000
Total annual excess operating costs	\$33,000
Times Present Worth of 1 per Period factor for 20 years (remaining economic life of plant) at a 12% discount rate	x 7.46944
Functional obsolescence	\$246,492

Other recognized appraisal methods for determining obsolescence may also be used if based on reliable and relevant data, ~~if the data was readily available to the assessor at the time the assessed value was set.~~

### **Calculating Total Depreciation for Income Producing Properties**

The market most often uses a capitalized income approach to value income producing properties. This approach converts an estimate of the income the property receives from rent into value through a mathematical process known as capitalization. It more accurately reflects the actions of buyers and sellers of such properties than does the cost approach to value used in the manual.

The simplest method of capitalization is done through the use of Gross Income Multipliers (GIM). The use of this capitalization method requires certain assumptions. The first is the property will remain rented at a constant rate with no unusual vacancies. The second is that the subject and the comparable properties used in the analysis are truly comparable in that they are subject to the same market influences. The third is that any differences between the subject and the comparables are reflected in the rents each receives.

Dividing a property's sale price by its annual income (rent) derives a gross income multiplier (GIM). The resultant GIM is a number that tells you how many times gross annual rent a purchaser paid for the property being analyzed. Completing this calculation for all sold comparable properties within an area will yield a range of GIM's from which can be chosen the typical GIM for the area.

The mechanics of the GIM method are:

- 1) Derive GIM's from comparable sales by dividing the sale price by the gross annual income/rent that each was receiving at the time of sale.
- 2) Calculate the total value of the subject property by multiplying its annual gross rent by the appropriate GIM.

Compare this total value from the capitalization process to the subject property's RCN plus land value. If the capitalized value is equal to or greater than the RCN plus land value, no depreciation exists on the subject property. If the RCN plus land value is greater than the capitalized value, the difference between the two values is the indicated total depreciation for the subject property.

Other more sophisticated versions of the capitalized income approach may be used to determine total depreciation if based on reliable and relevant data, ~~if the data was readily available to the assessor at the time the assessed value was set.~~

THE INSERT IS A QUOTE FROM "PROPERTY ASSESSMENT VALUATION", P. 173 (IAAO, 1996)

## Appendix F

## Commercial and Industrial Depreciation

### Determining Abnormal External Obsolescence

MAY BE

External obsolescence can either be temporary or permanent. Temporary external obsolescence is caused by factors in the market such as an oversupply of the type of space it provides. This is sometimes found in income producing (rental) properties such as apartments, hotels/motels, office buildings, and retail commercial space such as shopping centers and downtown mercantile buildings. Permanent external obsolescence is caused by the subject property's location to an encroaching land use. Examples of this would be location in proximity to an environmental hazard, inharmonious land uses surrounding the property, and the absence of zoning and land use controls.

~~The same discussion contained in the section **Determining Abnormal Functional Obsolescence** in this appendix with regard to the Daubert standard applies in the case of external obsolescence. The Board believes that given the acceptance of the Daubert standard by Indiana courts it is appropriate to use these standards as a general indicator of reliability of evidence used to calculate external obsolescence.~~

Market data must be used in estimating external obsolescence. ~~Therefore, it becomes necessary to isolate the effect that external obsolescence has on land value separately from building value.~~ Its effect on land value is demonstrated in ~~the land value assigned to the subject property.~~ **REFLECTED** Its effect on building value is the only concern discussed in this appendix because it is the depreciation of the structure that we are concerned with at this point in the true tax value determination. A properly determined land value ratio developed for the neighborhood in the land value process is used to determine the amount of external obsolescence to be allocated to the building.

**Example:** You have estimated \$20,000 as the total external obsolescence for a commercial property. The land value ratio established for commercial property in this neighborhood is 1:3 meaning that one (1) part of the total value is in the land and three (3) parts are in the improvements. To determine the amount of external obsolescence on the improvements, you must allocate out of the total obsolescence three (3) parts, which is equal to seventy-five percent (75%). Therefore, 3 parts or 75% of \$20,000 total obsolescence equals \$15,000 of external obsolescence on the commercial building.

BECAUSE EXTERNAL OBSOLESCENCE AFFECTS THE TOTAL PROPERTY — IMPROVEMENT AND LAND — THE OBSOLESCENCE ATTRIBUTABLE TO THE IMPROVEMENT MUST BE ISOLATED.

### Calculating Abnormal External Obsolescence

*comparing comparable sales of similar properties*

There are two methods of measuring external obsolescence, both requiring the use of market data. These two methods are known as paired sales analysis and capitalization of rent loss.

*MY COMMENTARY*

The reference to the paired sales analysis as being one of only two methods to estimate external obsolescence is incorrect. See, e.g. International Association of Assessing Officers, PROPERTY APPRAISAL AND ASSESSMENT ADMINISTRATION (1990), p. 229. ("Like Incurable functional obsolescence, economic obsolescence can be measured either by comparable sales, or capitalization of income.") Therefore, to bring the manual into compliance with generally accepted appraisal theory, it is suggested that the following example drawn closely from the IAAO text, PROPERTY ASSESSMENT AND VALUATION, SECOND ED. (1997) 175 be inserted at this point.

**Sales Comparison Method.** Assume that a residence in an area zoned exclusively for residential purposes is located adjacent to an interstate highway, but without any access to the interstate. Analysis of sales of comparable properties that are not adjacent to the interstate indicate a loss of market value of \$8,000 for this condition. Land value for the subject is \$3,000 less than for comparable sales that are not adjacent to the busy street. External obsolescence may be estimated as follows:

Market value loss	\$8,000
Land Value Difference	( <u>\$3,000</u> )
Loss attributable to improvement	\$5,000

## Appendix F

## Commercial and Industrial Depreciation

Sale Price of comparable w/o obsolescence, adjusted to assessment date	\$94,000	+ 5%	=	\$98,700
Sale Price of comparable with obsolescence adjusted to assessment date	\$88,000	+ 10%	=	\$88,000
Difference in adjusted selling prices (Indicated total market external obsolescence)				\$10,700
Divided by sale price of comparable with external obsolescence			÷	\$88,000
Equals percentage market external obsolescence			=	12.2%
Allocated to building using the L:B ratio of 1:3	12.2%	x 75%	=	9.2%
Rounded to				9.0%

Therefore, 9.0% is the amount of external obsolescence that the subject property's improvements should receive and is applied to the remainder value of these improvements.

### Capitalization of Income Method

This method of estimating external obsolescence uses the income approach to value techniques whereby the rent loss caused by the external obsolescence is capitalized into an estimate of the loss in total property value. The assessing official estimates how much net rent is being lost by the subject property due to the external influence (external obsolescence). This net rent loss is then capitalized by an overall capitalization rate using the capitalization formula to arrive at the dollar amount of total external obsolescence for the property.

To determine the dollar amount of external obsolescence to be applied to the remainder value of the subject improvements, the land value ratio is applied to the total external obsolescence as explained earlier in this appendix. This dollar amount of external obsolescence is then converted to a percentage by dividing it by the remainder value of the subject improvements.

**Example:** An office building containing 40,000 square feet of leaseable area suffers a vacancy rate of 20% due to an oversupply of office space in the market. The normal vacancy rate for this type of property in a more active market is 5%, therefore 15% (actual vacancy of 20% minus normal vacancy of 5%) of the space cannot be utilized in the current market. The net rent of the subject property is \$5.00 per square foot annually. The land value ratio for office buildings in the area is 1:5 and the capitalization rate is 12%. You have already calculated the remainder value at \$1,700,000.



The external obsolescence percentage to be applied to the subject improvements is calculated as follows:

$$\begin{array}{lcl} \text{Calculation of unused space} & = & 40,000 \text{ SF} \times 15\% = 6,000 \text{ sq. ft.} \\ 6,000 \text{ sq. ft.} \times \$5.00/\text{sq. ft.} & = & \text{Annual rent loss or } \$30,000 \\ \text{Capitalized (divided by) cap rate of 12\%} & \div & \underline{12\%} \\ \text{Equals Total External Obsolescence} & = & \$250,000 \\ \text{Allocated to building} & \$250,000 \times 83.33\% & = \$208,333 \\ \text{using the L:B ratio of 1:5} & & \\ \text{Converted to a percentage by dividing} & \$208,333 \div & = 12.26\% \\ \text{the building external obsolescence by} & \$1,700,000 & \\ \text{the remainder value} & & \\ \text{Rounded to} & & 12.00\% \end{array}$$

Therefore, 12.0% is the amount of external obsolescence that the subject property's improvements should receive and is applied to the remainder value of those improvements.

## Obsolescence for Special-Purpose Properties

This section provides recommendations for estimating industry-wide obsolescence of special-purpose properties. ~~The State Board of Tax Commissioners reserves the right to perform the assessment of some or all special-purpose properties, or to authorize the local assessor to perform such analysis.~~ A special-purpose property is defined as:

*A limited-market property with unique physical design, special construction materials, or a layout that restricts its utility to the use for which it was built.<sup>1</sup>*

Typically, this would include industrial properties designed for a ~~particular industry~~ <sup>unique</sup> or use, steel mills, or specialized types of manufacturing facilities.

The steps in this analysis include:

1. Estimating the reproduction cost new of the improvements
2. Breaking down the obsolescence into its component parts
3. Estimating the land value
4. Subtracting Step 2 from Step 1 to get the improvement value
5. Adding Step 4 to Step 3 to the total property value

## Underlying Principles

The reliance on value-in-use as opposed to value-in-exchange is similar to the difference between the bid and ask price for an asset. The bid price is what a buyer is willing to pay to purchase an asset, the ask price is what the seller is willing to take in exchange for an asset. Typically, the bid price will initially be lower than the ask price, some negotiation will occur, and when the two are equal an exchange will take place.

We will first consider the motivations of the seller. A seller of a special-purpose industrial property would accept nothing less than a price equal to the utility being gained from the property. For properties currently in use, this amount would be termed the value-in-use (i.e. the ask price). A buyer of a special-purpose property would initially bid no more than necessary to motivate the seller. In many cases, a buyer would start with the liquidation value of the property (i.e. the bid price). Assuming that the buyer intends to use the property for its current use, the buyer will likely adjust the bid price until a transaction is completed. Since the seller has no motivation to sell at anything less than the value-in-use for a special-purpose property, the ask price becomes the benchmark for a likely transaction.

Contrast the value-in-use premise with value-in-exchange. In this scenario, the underlying assumption is that both parties are motivated to undertake the transaction. From the seller's perspective, the only time this would occur would be if one of two conditions are met: 1) the bid price equals the value-in-use or 2) the seller no longer desires to continue to use the property. For special-purpose industrial properties, this would be a very special circumstance such as liquidation, transfer of assets or operations to a different location, etc., and would not reflect the

<sup>1</sup> Appraisal Institute, *The Dictionary of Real Estate Appraisal*, pg. 342.

~~utility gained by the seller of continuing to own and use the property. Therefore, under a value-in-use premise, the assessment will more likely resemble the ask price as opposed to the bid price.~~

There are also several important definitions and economic concepts related to the proposed methodology. The terms used in this analysis are defined as:

*Special-Purpose Property: A limited-market property with unique physical design, special construction materials, or a layout that restricts its utility to the use for which it was built.<sup>2</sup>*

*Use Value: The value a specific property has for a specific use.<sup>3</sup>*

These definitions do not refer to the "user" but rather the "use". This difference is material in applying obsolescence factors and determining which traditional appraisal adjustments should be used. Value-in-use has already been determined as an appropriate basis for assessing special-purpose properties based on the "property wealth" concept proposed in St. John III and reaffirmed in the latest decision of December of 1998.<sup>4</sup>

Further, this proposed methodology meets the court's recent ruling that each taxpayer does not have the right to "absolute and precise exactitude as to the uniformity and equality of each individual assessment...nor does it [the Property Taxation Clause of the Constitution of Indiana] mandate the consideration of independent property wealth evidence in individual assessments or tax appeals"<sup>5</sup>. The proposed analysis relies heavily on industry-wide data as it applies to the ~~utility of the specific property~~.

### Estimating Reproduction Cost New

The primary source for estimating the reproduction cost new will be the commercial and industrial cost tables. Special-purpose properties may have higher cost per square foot estimates than other industrial properties due to several factors. For instance, special-purpose properties will likely require more time to construct, which will add additional inflationary costs, interest costs, and holding period costs. Also, special-purpose properties may require unusual or made-to-order materials that are more expensive than normal construction materials. To the extent that special-purpose properties require more investment during construction before realizing a return to the owner, there is more risk involved as well. All of these factors can be taken into account through the estimate of soft costs in calculating the total cost per square foot.

Replacement cost, as opposed to reproduction cost, is the preferred method of cost estimation. However, estimating the replacement cost may not be possible for unique facilities, for situations where the plant engineer is unavailable, or where there is inadequate documentation for the assessor to use in determining an optimal facility. In these cases, reproduction cost estimating is the most reliable method.

<sup>2</sup> Appraisal Institute, *The Dictionary of Real Estate Appraisal*, pg. 342.

<sup>3</sup> Appraisal Institute, *The Dictionary of Real Estate Appraisal*, pg. 383.

<sup>4</sup> State Board of Tax Commissioners v. Town of St. John, 702 N.E. 2d 1034 (Ind. 1998), aff'g in part and rev'g in part Town of St. John III.

<sup>5</sup> State Board of Tax Commissioners v. Town of St. John, 702 N.E. 2d 1034 (Ind. 1998), aff'g in part and rev'g in part Town of St. John III.

UNNECESSARY AND  
JUST WRONG -  
SOFT COSTS "CANNOT  
ACCOUNT FOR MORE  
EXPENSIVE CONST.  
MATERIALS".

There shall be a presumption that the reproduction or replacement cost determined by the prescribed schedules is the actual reproduction or replacement cost of the subject structure for purposes of determining true tax value. However, either the assessing officials or a taxpayer shall be permitted to consider and use other relevant and reliable information to rebut such presumption and establish the actual reproduction or replacement cost, ~~if the information was readily available to the assessor and taxpayer at the time the assessed value was set.~~

### Adjustments to Reproduction Cost

Any portion of the facility not in use, or not in the process of being adapted for use, as of the assessment date requires adjustment ~~under the value-in-use estimate.~~ The assessor should subtract the cost of such improvements from the reproduction cost prior to adjusting for physical, functional, and external obsolescence. The physical, functional, and external obsolescence adjustments should reflect that such costs have already been subtracted out.

### Estimating Physical Depreciation

The assessor should be concerned about estimating items of physical depreciation that jeopardize the foreseeable (5 years or less) usefulness of the facility (based on the portion remaining after subtracting the cost of unused areas). These should be itemized and the cost to repair or replace the item of physical depreciation should be estimated. Many companies maintain budgeted maintenance or capital improvement schedules that will serve as additional supporting documentation for the determination of physical depreciation and its cost.

### Estimating Functional Obsolescence

Newly constructed facilities or specialized uses where the production function (or type of equipment) has not substantially changed since the original construction should not exhibit functional obsolescence. This assumes that the facility was originally designed to be efficient and that functional inefficiencies would not have been created purposefully. Substantial changes in technology, accepted production methods, and product specifications may result in property experiencing obsolescence even given its current use. ~~If the entire use of the facility has changed over time, the assessor may find forms of functional obsolescence. In this case, the assessor should also reevaluate whether or not the real property is a special-purpose property to be evaluated under this methodology since it may have demonstrated a broader set of willing buyers and sellers during the sale process. Finally, functional obsolescence usually does not occur gradually over time but rather is tied to specific events (e.g. a change in use, a change in production process, etc.) that can be objectively determined and will not occur simply because of age.~~

One difficulty that will arise in this approach is for facilities that contain production equipment requiring unusual physical layouts. For example, technologies that process items in rolls or "lengths" (e.g. paper and steel) usually have a production process that is in a straight, long line and may not allow for more efficiently shaped buildings. As long as the facility's design matches the needs of the production process, an unusually shaped building would not receive functional obsolescence adjustments ~~under a value-in-use approach.~~

*based on the building's shape alone.*

~~When a physical inspection shows some form of functional obsolescence, one way of estimating obsolescence is calculating the percentage difference (as opposed to absolute difference) between the current utilization rate of the existing facility and the recent industry average utilization rate for similar facilities (the Census Bureau and Federal Reserve publish utilization rate data). If this calculation indicates a negative percentage, the facility exhibits functional obsolescence relative to the rest of the industry. If this calculation provides a positive percentage, no functional obsolescence exists.~~

~~In performing the above calculation, the assessor still has to determine if the percentage differences were due to functional obsolescence versus management decisions. One way to account for this is to look at averages of these statistics over longer periods of time (5 years). To the extent that a specific facility has consistently had lower or higher utilization rates over this 5-year period of time, functional obsolescence is likely to be present. To the extent that the difference is a relatively recent phenomenon that is not exhibited over the 5-year period of time, management decisions are likely to be a more significant cause. Poor management decisions will not allow the taxpayer to claim more functional obsolescence.~~

~~Another way to estimate management effects versus functional obsolescence is to consider the specific property's design and expectations. Often, data is available from plant engineers and historical internal documents that indicate the original intended utilization rate (i.e. the intended or expected utilization rate, not the maximum possible rate). A comparison of the current utilization to the original intended utilization, after adjusting for changes in the industry's utilization rate as a whole, would indicate if the facility is being underutilized relative to its potential. The calculation would be the percentage change in the facility's intended utilization rate (adjusted for changes that have occurred in the industry as a whole) compared to the facility's recent utilization rate. Again, a negative number indicates functional obsolescence and a positive number indicates no functional obsolescence.~~

### Estimating External (Economic) Obsolescence

~~Appraisers sometimes use no external obsolescence adjustments at all for special-use properties because the appraisal is for value-in-use as opposed to value-in-exchange. Consequently, factors that would affect the value to other buyers and sellers are often irrelevant to the value that is being evidenced by the owner's on-going use of the facility.~~

~~The first step is to gather utilization data for the most specific SIC code that can be determined. The assessor then compares the average utilization rate for this SIC over a sustained period of time (i.e. the longest period that data is available from the Federal Reserve) to the most recent utilization data (i.e. 1998) for the same group. If the difference between the two estimates is within the sampling error for the data, then there is no external obsolescence adjustment. If the difference is more than the sampling error, external obsolescence is calculated by taking the following formula:~~

$$\frac{\overset{2010}{1998} \text{ Utilization Rate less Long-term Utilization Rate}}{\text{Long-term Utilization Rate}} = \text{External Obsolescence}$$

~~This adjustment can be up or down. An upward adjustment would imply that an industry that has very high demand or relatively tight supply such that the value-in-use of the property has risen and therefore should be taxed at a higher assessed value.~~

*We do not believe that there are methods of estimating obsolescence are recognized in the standard appraisal texts.*

~~In the unusual instance where a taxpayer can show that a special-purpose property contains a lease or rental income stream, the taxpayer may attempt to challenge the external obsolescence calculation by capitalizing the difference between market and contractual income. Such adjustments should not be allowed for several reasons including:~~

- ~~• the assessment is based on property wealth regardless of whether that wealth accrues to the landlord or the tenant~~
- ~~• the lack of comparable income data~~
- ~~• the absence of reliable capitalization rate indicators, and~~
- ~~• the difficulty of allocating such income discrepancies between physical, functional, and external obsolescence.~~

~~Further, the external obsolescence adjustment relying on utilization rates overcomes all of these barriers and so is an adequate form of adjustment by itself.~~

~~Other generally accepted methods of calculating obsolescence may be found in standard appraisal text and may be used where properly applicable if the data was readily available to the assessor at the time the assessed value was set.~~

### **Determining the Depreciation Percentage for Yard Structures**

This section provides instructions for calculating depreciation applicable to commercial and industrial yard structures. The following process is followed.

- Step 1 Determine the effective age of the yard structure by correlating the actual age of the yard structure with the structure condition classification in **Table F-2. Actual Age to Effective Age Conversion Table**.
- Step 2 Go to **Table F-3e. Typical Yard Structure Lives** at the end of this appendix. Find the total life expectancy for the subject yard structure in these tables.
- Step 3 Go to **Table F-4. Depreciation – Commercial/Industrial Structures**. In the effective age column, locate the row corresponding to the structure's effective age as determined from Step 1.
- Step 4 Find the intersection of the selected row (effective age) and the selected column (total economic life expectancy). This number is the total depreciation percentage for the structure and represents all physical deterioration, functional and external obsolescence.

**Example:** A ten (10) year old, concrete parking lot, with a structure condition classification of fair has an effective age of twelve (12) years as shown in the **Table F-2 Actual Age to Effective Age Conversion Table**. It has a total economic life expectancy of fifteen (15) years as shown in **Table 4-3e. Typical Yard Structure Lives**. It would have a total depreciation of sixty percent (60.00%) as shown in **Table F-4. Depreciation – Commercial/Industrial Structures**.

Table F-1. Structure Condition Classifications

Classification	Indicated Depreciation
Excellent	All items that can normally be repaired or refinished have recently been corrected, such as new roofing, paint, HVAC overhaul or replacement, etc. The structure suffers no functional inadequacies of any kind and all short-lived components are in like-new condition. Excellent location for the type of structure.
Good	No obvious maintenance required with few signs of deterioration but not everything is new. The structure has above standard appearance and utility for structures of its age. Very good location for the type of structure.
Average	No evidence of deferred maintenance; need for a few minor repairs along with some refinishing. All major components still functional for age of the structure. Minor inutilities typical for structures of like age and design. Average location for the type of structure.
Fair	Evidence of deferred maintenance; need for replacement or major overhaul of some physical components. Building has inadequate utility and services for structures of like age and design. Fair location for the type of structure.
Poor	Many repairs needed; the structure suffers from extensive deferred maintenance. It suffers from major inutilities in that it lacks several amenities that the majority of structures of its age and design offer. Undesirable location for the type of structure.
Very Poor	Extensive repairs needed; the structure suffers from extensive deferred maintenance and is near the end of its physical life. It suffers from extensive inutilities in that it lacks most amenities that the majority of structures of its age and design offer. Poor location for the type of structure.

Note: In determining condition classifications identify the classification that best fits the structure being assessed. Not all of the descriptions must be met. The intent is to classify a structure considering all physical, functional, and external factors and weighing them accordingly.



Table F-2. Actual Age to Effective Age Conversion Table

Actual Age	Effective Age based upon Condition Classification					
	Excellent	Good	Average	Fair	Poor	Very Poor
0	0	0	0	0	0	0
01-03	1	2	2	2	3	3
04-06	3	4	5	6	7	8
07-09	4	6	8	9	11	12
10-12	6	8	11	12	15	17
13-15	7	11	14	15	18	21
16-18	9	13	17	19	23	26
19-21	10	15	20	22	26	30
22-24	12	17	23	25	30	35
25-27	13	20	26	29	34	39
28-30	15	22	29	32	38	44
31-33	16	24	32	35	42	48
34-36	18	26	35	39	46	53
37-39	19	29	38	42	50	57
40-42	21	31	41	45	54	62
43-45	22	33	44	48	58	66
46-48	24	35	47	52	62	71
49-51	25	38	50	55	65	75
52-54	27	40	53	58	69	80
55-57	28	42	56	62	71	80
58-60	30	44	59	65	73	80
61-63	31	47	62	68	75	80
64-66	33	49	65	72	79	80
67-69	34	51	68	75	80	80
70-72	36	53	71	78	80	80
73-75	37	56	74	80	80	80
76-78	39	58	77	80	80	80
79 and older	40	60	80	80	80	80

Table F-3a. Typical Structure Lives - GCM

Occupancy	Quality Grade*	Framing Type			
		1 Wood Joist	2 Fire Resistant	3 Reinforced Concrete	4 Fireproof Steel
Apartment	≥ B	50	55	60	60
Apartment	≤ C	45	50	55	55
Auto Service	≥ B	40	45	50	50
Auto Service	C	35	40	45	45
Auto Service	≤ D	30	35	40	40
Auto Showroom	≥ B	40	45	50	50
Auto Showroom	C	35	40	45	45
Auto Showroom	≤ D	30	35	40	40
Bank	≥ B	50	55	60	60
Bank	C	45	50	55	55
Bank	≤ D	40	45	50	50
Bowling Alley	≥ B	35	40	45	45
Bowling Alley	≤ C	30	35	40	40
Car Wash Auto	≥ B	25	30	35	35
Car Wash Auto	C	20	25	30	30
Car Wash Auto	≤ D	20	20	25	25
Convenience Market	≥ A	40	45	50	50
Convenience Market	B, C	35	40	45	45
Convenience Market	≤ D	30	35	40	40
Country Club	≥ B	45	50	55	55
Country Club	≤ C	40	45	50	50
Dining/Lounge	≥ A	40	40	45	45
Dining/Lounge	B, C	35	35	40	40
Dining/Lounge	≤ D	30	30	35	35
Funeral Home	≥ A	50	50	55	55
Funeral Home	B, C	45	45	50	50
Funeral Home	≤ D	35	40	45	45
Garage - Parking	≥ B	35	40	45	45
Garage - Parking	≤ C	30	35	40	40
Health Club	≥ B	40	45	50	50
Health Club	≤ C	35	40	45	45
Hotel	≥ B	45	50	60	60
Hotel	C	45	50	55	55
Hotel	≤ D	40	45	50	50
Ice Rink	≥ B	40	45	50	50
Ice Rink	C	35	40	45	45
Ice Rink	≤ D	30	35	40	40
Motel	≥ B	45	50	60	60
Motel	C	45	50	55	55

Occupancy	Quality Grade*	Framing Type			
		1 Wood Joist	2 Fire Resistant	3 Reinforced Concrete	4 Fireproof Steel
Motel	≤ D	40	45	50	50
Nursing Home	≥ A	50	55	60	60
Nursing Home	B, C	45	50	55	55
Nursing Home	≤ D	40	45	50	50
Office - General	≥ B	50	55	60	60
Office - General	C	45	50	55	55
Office - General	≤ D	40	45	50	50
Office - Medical	≥ B	40	45	50	50
Office - Medical	≤ C	35	40	45	45
Retail - Department Store	≥ B	45	50	55	55
Retail - Department Store	≤ C	40	45	50	50
Retail - Discount Store	≥ B	35	40	45	45
Retail - Discount Store	≤ C	30	35	40	40
Retail - General	≥ B	45	50	55	55
Retail - General	C	40	45	50	50
Retail - General	≤ D	40	40	45	45
Shopping Ctr. - NH	≥ C	35	40	45	45
Shopping Ctr. - NH	≤ D	30	35	40	40
Shopping Ctr. - Regional	≥ B	50	55	55	55
Shopping Ctr. - Regional	≤ C	45	50	55	55
Supermarket	≥ A	40	45	50	50
Supermarket	B, C	35	40	40	40
Supermarket	≤ D	30	35	40	40
Theater	≥ A	40	45	50	50
Theater	B, C	35	40	45	45
Theater	≤ D	30	35	40	40
Utility/Storage	≥ B	30	35	40	40
Utility/Storage	C	25	30	35	35
Utility/Storage	≤ D	20	25	30	30

\* ≤ means equal to or less than the quality grade shown; ≥ means equal to or greater than the quality grade shown

Table F-3b. Typical Structure Lives - GCI

Occupancy	Quality Grade*	Framing Type			
		1 Wood Joist	2 Fire Resistant	3 Reinforced Concrete	4 Fireproof Steel
Garage - Commercial	≥ B	35	40	45	45
Garage - Commercial	≤ C	30	35	40	40
Hangar	≥ AA	40	45	50	50
Hangar	A, B	35	40	45	45
Hangar	C	35	40	45	45
Hangar	≤ D	30	35	40	40
Manufacturing - Heavy	≥ B	50	55	60	60
Manufacturing - Heavy	≤ C	45	50	55	55
Manufacturing - Light	≥ B	40	45	50	50
Manufacturing - Light	C	35	40	50	50
Manufacturing - Light	≤ D	35	40	45	45
Manufacturing - Loft	≥ A	50	55	60	60
Manufacturing - Loft	B, C	40	50	55	55
Manufacturing - Loft	≤ D	35	40	50	50
Manufacturing - Mill	All	40	50	60	60
Office - Industrial	≥ B	35	40	45	45
Office - Industrial	C	30	35	40	40
Office - Industrial	≤ D	25	30	35	35
Power Generating Plant	All	45	50	55	55
Research & Development	≥ B	45	50	55	55
Research & Development	C	40	45	50	50
Research & Development	≤ D	35	40	50	50
Shop - Small	≥ B	30	35	40	40
Shop - Small	≤ C	25	30	35	35
Storage - Heavy Utility	≥ B	50	55	60	60
Storage - Heavy Utility	≤ C	45	50	55	55
Storage - Light Utility	≥ B	30	35	40	40
Storage - Light Utility	C	25	30	35	35
Storage - Light Utility	≤ D	20	25	30	30
Terminal - Truck	All	40	45	50	50
Warehouse - Light	≥ B	40	45	50	50
Warehouse - Light	C	35	40	50	50
Warehouse - Light	≤ D	35	40	45	45
Warehouse - Loft	≥ A	50	55	60	60
Warehouse - Loft	B, C	40	50	55	55
Warehouse - Loft	≤ D	35	40	50	50
Warehouse - Mini	≥ B	40	45	50	50
Warehouse - Mini	C	35	40	45	45
Warehouse - Mini	≤ D	30	35	40	40

\* ≤ means equal to or less than the quality grade shown; ≥ means equal to or greater than the quality grade shown

Table F-3c. Typical Structure Lives - GCR

Occupancy	Quality Grade*	Framing Type
		1 Wood Joist
Apartment	≥ A	55
Apartment	B, C	50
Apartment	≤ D	45
Bank	≥ B	50
Bank	C	45
Bank	≤ D	40
Dining/Lounge	≥ A	40
Dining/Lounge	B, C	35
Dining/Lounge	≤ D	30
Funeral Home	≥ A	50
Funeral Home	B, C	45
Funeral Home	≤ D	35
Motel	≥ B	40
Motel	C	35
Motel	≤ D	30
Nursing Home	≥ B	40
Nursing Home	≤ C	35
Office - General	≥ B	50
Office - General	C	45
Office - General	≤ D	40
Office - Medical	≥ B	40
Office - Medical	≤ C	35

\* ≤ means equal to or less than the quality grade shown; ≥ means equal to or greater than the quality grade shown

Table F-3d. Typical Structure Lives - GCK

Occupancy	Quality Grade*	Framing Type
		Light, Pre-engineered Steel and Pole Frame
All occupancies	≥ B	35
All occupancies	C	30
All occupancies	≤ D	25

\* ≤ means equal to or less than the quality grade shown; ≥ means equal to or greater than the quality grade shown

Table F-3e. Typical Structure Lives – Yard Structures

Yard Structure	Quality Grade	Life Expectancy
Bins – Corrugated Metal	All	15
Bins - Dry Storage	All	30
Bleachers - Permanent	Steel	30
Bleachers - Permanent	Wood	20
Bleachers - Portable	All	25
Bridges – Highway	All	60
Bridges – Pedestrian	All	30
Bridges - Skyway	All	30
Bulkhead Piling	Conc.	35
Bulkhead Piling	Stone	25
Bulkhead Piling	Wood	5
Canopies C/I	≥ B	30
Canopies C/I	≤ C	20
Car Wash Buildings – Do It Yourself	≥ B	30
Car Wash Buildings – Do It Yourself	C	25
Car Wash Buildings – Do It Yourself	≤ D	20
Car Wash Buildings – Drive Thru	≥ B	30
Car Wash Buildings – Drive Thru	C	25
Car Wash Buildings – Drive Thru	≤ D	20
Chimneys – Brick	All	40
Chimneys – Metal	All	25
Courses - Miniature Golf	All	5
Courts - Paddle Tennis	All	20
Courts - Shuffle Board	All	25
Courts – Tennis	Asp	20
Courts – Tennis	Clay	10
Dikes – Earth	All	5
Docks – Commercial; Steel Piles	Steel	30
Docks – Commercial; Wood Piles	Wood	25
Elevators – Grain	Conc.	60
Elevators – Grain	Steel	35
Fence - Chain Link	All	15
Fence – Wood	All	10
Greenhouses – Aluminum	All	25
Greenhouses – Pipe	All	20
Greenhouses – Steel	All	20
Greenhouses - Wood	All	10
Guard Rails	All	10
Horizontal Storage	All	45
Incinerators - Brick	All	20
Incinerators - Steel	All	15

Yard Structure	Quality Grade	Life Expectancy
Linens - Landfill	All	25
Masonry Walls	All	25
Paving - Asphalt	All	10
Paving - Concrete	All	15
Paving - Crushed Stone	All	5
Railroad Siding	All	10
Retaining Walls	All	10
Silos - Trench and Bunker	All	20
Stacks - Concrete and Brick	All	40
Stacks - Steel	All	25
Stadiums - Sports	All	40
Standpipes - welded steel	All	30
Surface Reservoirs - concrete tanks	All	35
Tanks - Bulk Storage	All	25
Tanks - Elevated Steel	All	35
Tanks - Fuel Oil	All	25
Tanks - General	All	20
Tanks - Oil Storage; Bolted Steel Type	All	25
Tanks - Oil Storage; Welded Steel Type	All	25
Tanks - Water Storage; Steel (Reservoirs)	All	30
Tanks - Water Storage; Wood	All	20
Tanks - Welded Steel Pressure	All	20
Theaters - Drive-In	All	30
Towers	All	50
Tracks - Running	All	20
Turf - Artificial	All	5

Table F-4. Depreciation - Commercial and Industrial Structures

Effective Age	Total Economic Life Expectancy											
	60	55	50	45	40	35	30	25	20	15	10	5
0	0	0	0	0	0	0	0	0	0	0	0	0
01-03	1	2	2	2	3	4	4	6	7	8	20	40
04-06	4	4	5	6	7	9	12	15	20	35	40	80
07-09	6	7	8	10	12	15	19	25	33	42	60	80
10-12	9	10	12	14	18	22	28	36	48	60	80	80
13-15	12	13	16	19	24	29	37	48	61	80	80	80
16-18	15	17	20	25	30	37	46	59	73	80	80	80
19-21	18	21	25	30	37	45	56	71	80	80	80	80
22-24	21	24	29	36	44	54	65	77	80	80	80	80
25-27	25	29	35	43	52	62	74	80	80	80	80	80
28-30	29	34	41	49	59	70	78	80	80	80	80	80
31-33	34	40	47	56	67	74	80	80	80	80	80	80
34-36	38	45	53	62	72	78	80	80	80	80	80	80
37-39	43	51	59	69	77	80	80	80	80	80	80	80
40-42	49	57	64	73	79	80	80	80	80	80	80	80
43-45	54	62	69	77	80	80	80	80	80	80	80	80
46-48	59	66	73	79	80	80	80	80	80	80	80	80
49-51	64	71	77	80	80	80	80	80	80	80	80	80
52-54	68	75	79	80	80	80	80	80	80	80	80	80
55-57	71	78	80	80	80	80	80	80	80	80	80	80
58-60	73	79	80	80	80	80	80	80	80	80	80	80
61-63	76	80	80	80	80	80	80	80	80	80	80	80
64-66	78	80	80	80	80	80	80	80	80	80	80	80
67-69	79	80	80	80	80	80	80	80	80	80	80	80
70-72	80	80	80	80	80	80	80	80	80	80	80	80
73-75	80	80	80	80	80	80	80	80	80	80	80	80
76+	80	80	80	80	80	80	80	80	80	80	80	80



## **Using the Commercial Swimming Pool Depreciation Table**

There is one (1) commercial swimming pool depreciation table. In order to use this table you must first determine the age of the swimming pool.

The actual age of the swimming pool on the date of the general reassessment is to be used. Should the pool show excessive deferred maintenance for its actual age, an effective age of six (6) years less than the pool's construction year may be used to determine total depreciation.

**Notes:** Swimming pools are only depreciated during the general reassessment year; no further depreciation is to be applied until the next general reassessment.

No obsolescence is to be given on commercial swimming pools.

To determine the total depreciation percentage for a swimming pool, perform the following steps:

Step 1: In the "Age" column, locate the row corresponding to the swimming pool's actual age or effective age.

Step 2: Find the intersection of the selected row (age) and the "Depreciation" column. This number is the total depreciation percentage for the swimming pool.

**Example:** A commercial swimming pool is nine (9) years old. The Commercial Swimming Pool Depreciation Table indicates the total depreciation percentage for the swimming pool is twenty-five percent (25%).

**Note:** Instructions for recording the total depreciation percentage on the property record card, converting this percentage to a multiplier, and using this multiplier to calculate the remainder value of a commercial swimming pool are provided in the section *Calculating the Remainder Value* in Chapter 7.

**Table F-5. Commercial Swimming Pool Depreciation**

Price swimming pool from standard schedule and  
depreciate on the basis of a 20 year life expectancy,  
as follows:

Age	Depreciation
01-02	5
03-04	10
05-06	15
07-08	20
09	25
10	30
11-12	35
13-14	40
15-16	50
17-18	55
19-20	60
21-22	65
23-25	70
Over 25	75-80

### Using the Golf Course Physical Deterioration Table

There is one (1) golf course normal depreciation table. In order to use this table you must first determine the condition and actual age of the golf course as explained in this Appendix.

To determine the normal depreciation percentage for a golf course, perform the following steps:

Step 1: In the rating column, locate the row corresponding to the golf course's condition.

Step 2: Find the intersection of the selected row (condition) and the "Depreciation" column. This number is the normal depreciation percentage for the golf course.

**Example:** A golf course is twelve (12) years old and has a condition of Fair. The Golf Course Depreciation Table indicates the percentage for the golf course is twenty percent (20.00%).

**Note:** Instructions for recording the normal depreciation percentage on the property record card, converting this percentage to a multiplier, and using this multiplier to calculate the remainder value of a golf course are provided in the section *Calculating the Remainder Value* in Chapter 7.

**Table F-6. Golf Course Depreciation**

Suggested normal depreciation allowances based upon a composite rating of the overall condition, desirability and functional usefulness of the course. Use after three (3) years.

NOTE: The indicated depreciation listed refers to the following items:

- Tees
- Bunkers
- Greens
- Lakes
- Sprinkler systems
- Site preparation
- Landscaping

Rating	Indicated Depreciation	Depreciation Percentage
Excellent	No deferred maintenance exists. All items that can normally be repaired or refurbished have recently been corrected. The course has superior appearance for courses of its age and design. The course suffers no functional inadequacies of any kind and short-lived components are in like-new condition.	0
Good	No obvious maintenance required with few signs of deterioration but not everything is new. The course has above standard appearance and utility for courses of its age and design.	10
Average	No evidence of deferred maintenance; need for a few minor repairs along with some refurbishing. All major components still functional for age of the course. Minor inutilities typical for courses of like age and design.	15
Fair	Evidence of deferred maintenance; need for replacement or major overhaul of some items. Course has inadequate utility and services for courses of like age and design.	20
Poor	Many repairs needed; the course suffers from extensive deferred maintenance. It suffers from major inutilities in that it lacks several amenities that the majority of courses of its age and design offer.	25
Very Poor	Extensive repairs needed; the course suffers from extensive deferred maintenance. It suffers from extensive inutilities in that it lacks most amenities that the majority of courses of its age and design offer.	50

Note: In determining condition ratings identify the rating that best fits the course being assessed. Not all of the descriptions must be met. The intent is to classify a course considering all physical and functional factors and weighing them accordingly.

Add an additional allowance for extraneous devaluing factors contributing to economic obsolescence as may be required

**EXTERNAL OBsolescence (1 - 3 years)**

	EX	G	AV	F	P	VP
0 to 1 year old	30	35	35	35	40	60
1 to 2 year old	20	25	25	25	25	40
2 to 3 year old	10	10	10	10	15	20

Note: External obsolescence is applied to the remaining value After normal depreciation is applied.

### Using the Riverboat Depreciation Table

There is one (1) riverboat depreciation table. In order to use this table you must first determine the actual age of the riverboat.

To determine the total depreciation percentage for a riverboat, perform the following steps:

Step 1: In the "Age" column, locate the row corresponding to the riverboat's actual age.

Step 2: Find the intersection of the selected row (age) and the "Depreciation" column. This number is the total depreciation percentage for the riverboat.

**Example:** A riverboat is four (4) years old. The Riverboat Depreciation Table indicates the total depreciation percentage for the riverboat is fifteen percent (15%).

**Note:** Instructions for recording the total depreciation percentage on the property record card, converting this percentage to a multiplier, and using this multiplier to calculate the remainder value of a riverboat are provided in the section *Calculating the Remainder Value* in Chapter 7.

**Table F-7. Riverboat Depreciation**

Actual Age	Depreciation
01	5
02	10
03-04	15
05-06	20
07-08	25
09-10	30
11-12	35
13-14	40
15-16	45
17-20	50
21-26	55
27-30	60
Over 30	65

### Calculating Total Depreciation Percentage for Special Use Commercial Properties

Special use commercial properties are special purpose buildings (fast food restaurants and service stations) that are not readily adaptable to other uses.

These types of structures go out of style both functionally and economically at a faster rate than they physically deteriorate due to changes in consumer preferences and demand. The businesses they house are highly competitive and rely heavily on site location and physical appearance. In order to keep up with the competition, owners renovate the interiors of the structures more frequently than they do on most general commercial structures.

Competition, oversaturation, changes in consumer habits, and changes in traffic patterns are a few of the factors that have an influence on the success of the operation. The obsolescence caused by these factors influences the life span of the buildings. Periodic renovation of these type structures cures most forms of obsolescence. Therefore actual age must be converted to effective age following the guidelines earlier in this appendix used for determining effective age.

A depreciation table that reflects the relatively short life of this type structure is provided in this Appendix. The table reflects normal physical depreciation and obsolescence.

To determine the total depreciation for special use commercial properties, perform the following steps:

- Step 1 Assign a structure condition classification to the structure relative to structures of similar age. Structure condition classifications are summarized in **Table F-1. Structure Condition Classifications** earlier in this appendix.
- Step 2 Determine the effective age of the structure by correlating the actual age (weighted age) with the structure condition classification in **Table F-2. Actual Age to Effective Age Conversion Table** located earlier in this appendix.
- Step 3 In the "Effective Age" column of the Special Use Commercial Table, locate the row corresponding to the effective age of the building.
- Step 4 Find the intersection of the selected row (effective age) and the "Depreciation" column. This number is the total depreciation percentage for the building.

**Note:** Instructions for recording the total depreciation percentage on the property record card, converting this percentage to a multiplier, and using this multiplier to calculate the remainder value of special use commercial structure are provided in the section **Calculating the Remainder Value** section in Chapter 8.

**Table F-8. Special Use Commercial Property Depreciation**

Effective Age in years	Depreciation
01	5
02	10
03	15
04	20
05	25
06	30
07-08	35
09-10	40
11-12	45
13-14	50
15-16	55
17-19	60
20-21	65
22-24	70
25-30	75
Over	80

## **GRAIN ELEVATOR DEPRECIATION CONSIDERATIONS**

Grain elevators are special purpose structures and, with very few exceptions are rarely convertible into other uses. Therefore, the assessor must carefully estimate all forms of depreciation correctly. Table F-4e allows the assessor to determine the physical deterioration and normal obsolescence suffered by the grain elevator but does not account for abnormal obsolescence caused by such factors as excess storage capacity, lack of transportation facilities (major highways, railroads, or waterways), nor other types of inutilities caused by changes in the agricultural economy.

Besides the normal depreciation from Table F-4e, the assessor must also determine the amount of abnormal obsolescence caused by factors such as these. The determination of the amount of abnormal obsolescence requires a comparative analysis of current operating data and the total licensed capacity. For example, a grain elevator has a total licensed capacity of 300,000 bushels. Over the last five years of operation, the elevator has stored an average of 240,000 bushels. Therefore it is suffering from abnormal functional obsolescence because, in the current market, it has 60,000 bushels of excess capacity.

The assessor should value the grain elevator by first calculating the replacement cost new of the structure. Taking the average number of bushels stored for the most recent five years and multiplying by the unit costs given in this manual accomplishes this. Replacement cost is preferred as opposed to reproduction cost because replacement cost estimates the cost of a physical structure with similar utility. ~~This estimate of cost should be closely aligned with value-in-use. As discussed under Concepts of Cost in the Introduction to this manual,~~ Replacement cost eliminates the cost of obsolete materials, design, and building techniques. In so doing, most forms of functional obsolescence have been "cured" and do not have to be accounted for in the depreciation estimate. The assessor should then follow the steps outlined in this appendix for determining the normal depreciation and apply this depreciation percentage to the replacement cost new estimate.

The amount of abnormal obsolescence should be reviewed annually and adjusted if necessary.



**TO:** Cheryl Musgrave  
**FROM:** Thomas M. Atherton  
**DATE:** May 7, 2008  
**RE:** Personal Thoughts on the Standard of Value for Assessments

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The DLGF has proposed an assessment manual adopting market value as the standard of value for the 2011 reassessment. Recently, some concern has been expressed about whether this is a wise policy choice. Some have voiced the theory that implementation of the market value standard would "devastate" the tax base. These parties suggest that the current Market Value in Use (MVIU) standard should be continued.

The following comments are mine alone. I do not advance them on behalf of any client. I represent no one in this matter other than myself. However, I have had a good deal of experience in evaluating and litigating assessments in both market value systems and the MVIU system. For the following reasons, and others that I would be delighted to bore you with, it is my abiding conviction that converting to a market value standard (1) will lead to more certain, accurate, and equitable assessments; (2) fewer assessment appeals; and (3) the appeals that do occur will be judged on a much more rational basis, leading to further increased clarity and predictability in the system.

As you evaluate the possibility of changing the standard of value, I would suggest that whatever standard is chosen must be characterized by the following three concepts:

1. The value standard must be clear and understandable. Assessors cannot accurately implement a value standard that they do not understand. Stated simply, if assessors don't know what the "target" is, they are unlikely to hit it.
2. The value standard must be testable by objectively verifiable data. Indiana tried a system that was not testable by objectively verifiable data. It didn't work out very well.
3. Assessors' performance in equitably implementing the standard must be readily testable the DLGF. The ability to objectively evaluate the performance of assessors is vital to the administration of a good assessment system. A good assessment system will have a supervisory agency (in our case, the DLGF) which monitors the performance of assessors and implements corrections when necessary. See, e.g. IAAO, MASS APPRAISAL OF REAL PROPERTY. Whatever valuation standard is adopted, the DLGF must be able to use an accepted method of statistically sampling and testing assessment performance. To the best of my knowledge, almost every state (and most, if not all the provinces of Canada) do this by means of sales ratio studies. Ratio studies compare actual market values (sales prices) with assessments. The closer the assessor comes to the actual sales prices, the more "accurate" the assessments and the better their

performance. Sales data produces accurate measurements of assessments if the standard the assessor is supposed to achieve is market value. But according to the proponents of MVIU, market values are so different from MVIU assessments that if we were to change to market value it would "devastate" Indiana's tax base. If MVIU is significantly different from market value, it would be improper to measure assessors' performance by comparing assessments to sales, a "target" they are not even supposed to be "shooting at."<sup>1</sup> If the DLGF is deprived of ratio studies (and the explanatory IAAO standards) what will be the objective standard by which assessment practice is measured? Proponents of MVIU need to answer this question.

### **A Brief Comparison Of Market Value In Use And Market Value Compare Under Each Of The Three Principles.**

1. The value standard must be clear and understandable.

Market Value	Market Value in Use
Accepted definition, based on years of peer-reviewed scholarship. Widely applied nationally and internationally in both property tax and other forms of valuation.	Product of untested economic theories and political expedience. Not peer-reviewed and not accepted or applied anywhere outside of Indiana property tax.
Internally consistent.	Internally inconsistent. It is the value to the owner. (P. 2). No, it's the value to "a similar user." (P. 2) No, it's the value for a specific use. (P. 3) No, it's the "ask price," or "the how much utility must be replaced to induce the buyer to abandon the property." (p.2) Almost a decade after the rule was implemented, there is no consensus about the basic concepts of the standard.

2. The value standard must be testable by objectively verifiable data.

Market Value	Market Value in Use
An assessor's or appraiser's judgment can be compared to objective sales prices.	Value to current user completely subjective; even the term value to a "similar user" is amorphous and uncertain; value for current use may have some objective data depending on how broadly use is defined, and to the extent it does, the

<sup>1</sup> It is true that under the current law sales ratios studies must be used. That does not mean that MVIU should be adopted as the standard, or that ratio studies are the appropriate measure of MVIU assessment performance.

	data will come from sales transactions.
This point is actually about theory as opposed to objective facts, but market valuation brings with it an established methodology that can be applied to both establish "correct" assessments and to evaluate appeals.	MVIU has no established methodology outside of the few pages in the Manual and the decisions of the IBTR and the Tax Court. All of us are groping in the dark trying to understand and apply unclear and often contradictory language.

3. Assessors' performance in implementing the standard must be readily testable by the DLGF.

Market Value	Market Value in Use
Sales ratio studies allow direct comparison of objectively verifiable data (sales prices) to measure how closely assessments of market value tie to actual market value transactions.	Assessments are to be made on value in use, not value in exchange. What is the relevance of comparing values in exchange (sales data) to evaluate MVIU assessments, which, by definition, are higher or lower than market values?
Sales Ratio Studies have IAAO standards to judge the accuracy and uniformity of assessment performance.	Proponents of MVIU should describe objective data to judge the accuracy and uniformity of MVIU assessments. They must also identify recognized measurement standards (akin to the IAAO standards) that allow the statistical measurement of assessors' performance by the DLGF.

**A Few General Thoughts.**

**A. The sky may not be falling.** There are several reasons why I think the impending "loss of value crisis" is not going to be a crisis at all. Among them:

(1) For the vast majority of properties, we are currently a *de facto* market value state. Agricultural land will not be affected by a change to market value. Non agricultural land currently is valued on a market value basis. Homes, with rare exception, currently are valued on a market value basis. Apartments currently are valued on a market value basis. In my experience, most commercial properties are currently valued on a market value basis e.g. hotels/motels, strip centers, etc. My understanding is that the major concern raised by proponents of MVIU deals with the assessment of some special purpose properties.<sup>2</sup> For the reasons discussed in (2) below, the fears of major value losses for special purpose properties seem overblown.

(2) The concept of "highest and best use" is inherent in market value. Highest and best use is defined as, "[t]he reasonably probable and legal use of vacant

<sup>2</sup> Some practitioners have raised an issue about the market value assessments of vacant properties. I would be happy to discuss that issue, but rather than extend this memo, I will defer that discussion for another day.

land or an improved property, which is physically possible, appropriately supported, financially feasible and that results in the highest value." *DICTIONARY OF REAL ESTATE APPRAISAL*. (Emphasis added.) "When the purpose of an appraisal is to develop an opinion of market value, highest and best use identifies the most profitable, competitive use to which the property can be put." *APPRAISAL OF REAL ESTATE*, 12<sup>th</sup> Ed., 305 (Emphasis added.) Are assessors currently assessing properties based on a use that is MORE valuable than "the most profitable, competitive use to which the property can be put?" It's hard to see how they could be; but unless they are, changing to valuations based on highest and best use will not cause a significant loss of value. The "loss of value crisis" will also be ameliorated because the market value standard will increase many assessments, particularly for any property that is currently under-utilized. These properties are not being currently used for "the most profitable, competitive use to which the property can be put," and should see assessment increases under market value.

B. **Any change in the value standard will change tax burdens.** I do not suggest that adoption of a market value standard will not change some assessments. But an adoption of even a slightly different "value in use" system would also change assessments and create "winners and losers."

C. **3-2-1 Caps.** Business now faces an effective tax rate potentially three times as high as residential property. But, adding insult to injury, it seems that the MVIU standard means market value for homeowners, yet something more than market value for at least some businesses. So at least measured on objectively verifiable sales data, the business community will face more than a 3 to 1 differential.

D. **What about the rest of the country?** If market value is hard to estimate and unfair to homeowners and governments, how do we explain it's wide-spread – almost universal – use?

E. **MVIU allows for many more "creative interpretations," to both increase and decrease assessments than market value.** MVIU has been minimally expounded and not clearly explained. There are an enormous amount of gaps that need to be filled in. These gaps provide room for creative practitioners on both the taxpayer and government sides to advance "creative theories." By contrast, market value principles are much better developed and relatively precise. (*Compare*, AORE 12<sup>th</sup> Ed. with the Manual). As an example, compare the market value concept of "comparable sales" and the MVIU principle of "similar user." Whether a particular property is in fact "comparable" is a frequent area of dispute in market value systems. However, the principles of comparability are well developed. If you think that your opponent has relied on a non-comparable sale, there is an established body of principles that should be applied and you can demonstrate the extent to which your opponent has ignored or violated those principles. By contrast, there is nothing in the manual that defines "similar user," and because MVIU exists only in Indiana property tax, there is no external body of principles or scholarship to apply. We must turn to the tax court who, in the fullness of time will eventually tell us what the phrase "similar user" means.

F. **Who fills in the gaps in valuation theory?** As pointed out above, there are fewer gaps in market value theory because the appraisal profession regularly updates the principles to eliminate gaps and deal with current issues. However, under MVIU, it is the tax court that fills in the gaps. Under MVIU the tax court will decide a case and provide some guidance on the issue, but in the intervening years the uncertainty remains and cases build up. Moreover, when the opinion is finally issued, it may raise as many questions as it answers. But it is important to note that he will decide the case based upon the record in that case. If the record is incomplete, or the case badly presented, the decision will almost certainly be impacted. The setting of valuation principles by a court, on a case by case basis, is just a bad idea; but it is the only option as long as Indiana adheres to the idiosyncratic MVIU system.

G. **It is fatuous to suggest that RCNLD is a measure of value for a particular use, or to a particular user.** The suggestion has been made that MVIU can be measured by estimating replacement cost and deducting scheduled depreciation. (The old Remainder Value.) I am unaware of any logical support for this allegation. Neither the building classes, nor the depreciation tables are industry specific. Valued under the cost approach, two identical manufacturing buildings will have the same RCNLD, whether they are used in the steel industry, the automotive industry, or any other industry. To suggest that the RCNLD measures value to the particular owner is even more specious.